

Rethinking the Culture-Economy Dialectic

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abstract:

The culture-economy dialectic (CED) – the opposition of the concepts and phenomena of culture and economy – is one of the most important ideas in the modern history of ideas. Both disciplinary boundaries and much theoretical thought in social science are strongly influenced or even determined by the CED. For that reason, a thorough analysis and evaluation of the CED is needed to improve understanding of the history of ideas in social science and the currently fashionable research on the cultural influences on economic differences between countries and regions. This thesis is an attempt to do just that. The concepts of “culture” and “economy” (and related concepts) and the (assumed) relations therebetween are compared and analyzed. Empirical results from earlier studies are summarized and some new tests are presented. These new tests are partly based on a measurement of Dutch regional culture. However, most theories of the CED are (nearly) impossible to verify (empirically). There appears to be some influence of wealth on specific cultural phenomena (such as individualism and post-materialism), but the often assumed influence of culture on entrepreneurship and economic growth remains unconfirmed. Moreover, from an analysis of the theories themselves, it appears that most of these cannot be falsified and are, therefore, hardly 'scientific'. Many of the theories of the CED and, in fact, many theories of social science in general are of a conceptual rather than a causal nature. These theories cannot be falsified (or verified) by empirical means alone, but must be studied by means of conceptual analysis. In the final conclusions, this thesis, therefore, argues for conceptual analysis in – and a more anarchist approach to – social science.

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chapter 1

INTRODUCTION

Culture is a little like dropping an Alka-Seltzer into a glass – you don't see it, but somehow it does something.

Hans Magnus Enzensberger (Quoted by Hans Haacke, *New York Times*, January 5th, 1987)

Culture has become the plaything of journalists and historians, the Barbie-doll of sociologists, the Toys-'R'-Us of the cultural anthropologists. It is an idiot's delight.

Melvin Lasky 2002, p. 81

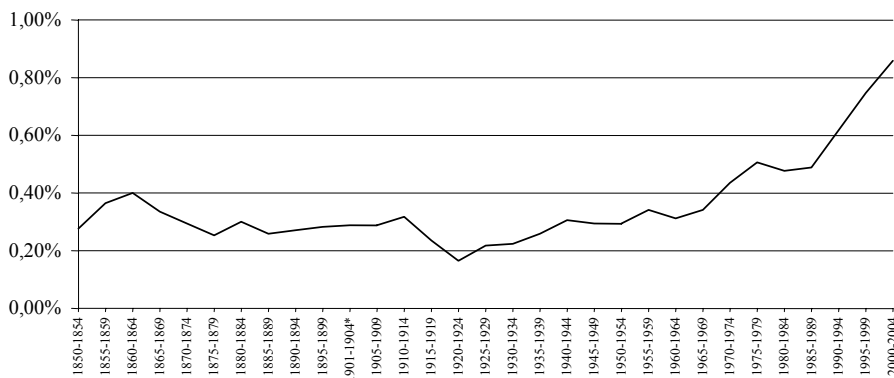
1 / 1 / the culture - economy dialectic

Over the past decades, the popularity of culture as an explaining factor in economic geography, economics, and management and organisation studies has grown steadily. Slowly it has become more or less common practice to point at culture whenever more traditional explanations have failed. At the same time the expanding toolkit of cross-cultural psychology provided an ever-growing data set on (aspects of) culture. Hofstede (1980) is probably the best-known and most influential example hereof. In the 1990s the social sciences, geography included, experienced what is now called a 'cultural turn' (e.g. Barnes 2001). Increasingly, culture was used to explain regional and (inter-) national differences in, for instance, wealth and economic growth. Some twenty years earlier, in the 1970s, Marxist approaches in social science induced interest in the opposite relationship: the economic 'mode of being' as an explanation for social and cultural difference.

The concepts of "culture" and "economy" have played a key role in (the development of) social science. 'In much of twentieth century discourse, "culture" and "economy" have been represented in juxtaposition, if not indeed as an outright contradiction of terms' (Kockel 2002b, p. 1). Especially in social scientific theorising "culture" and "economy" are (nearly) dichotomous concepts. Social reality tends to be divided into two mutually exclusive categories: culture, and economy (e.g. Castree 2004). This dichotomy co-determined the organisation of social science itself: sociology studies society or culture, economics studies the economy. The concept dichotomization and the (conjectured) relationships between culture and economy represent a *dialectic* (see § 2.5 on the concept of "dialectic"): the 'culture - economy dialectic' (hereafter abbreviated **CED**).

The CED is at least as old as social science; some (conceptually) related dialectics, often difficult to distinguish from the CED itself, are, however, much older. The history of the CED as a dialectic of *social* categories started in the 18th century with (among others) Montesquieu, Vico and Smith. It continued throughout the 19th century with Marx, Tylor, Morgan, Durkheim and Simmel; the early 20th century: Weber, Tawney; and exploded in the second half of the 20th century. Figure 1.1 and table 1.1 illustrate the late 20th century rise of "culture" and its popularity (and that of the CED) in contemporary discourse.

figure 1.1: "culture" or "cultural" in book titles in WorldCat database by year of publication



All data relative to total number of books in WorldCat database published in that period.
 note (*): the year 1900 is excluded because all undated publications are also filed under this year.
 source: WorldCat database (www.oclc.org/worldcat), August 2004

table 1.1: "culture" and "economy" in titles and on the internet (June 2004)

	Online Contents ¹	WorldCat ²	Google ³
"culture" ⁴	197927	380898	50,8 m
+ "economy" ⁵	2925	12000	6,0 m
relative (row 2 / row 1)	1,48 %	3,15 %	11,9 %
"concept of culture" ⁶	125	420	43500

notes:

- (1) words or phrases in *article* titles in over 17000 scientific journals. www.oclcpcia.org.
- (2) words or phrases in *book* titles of over 42 million books. www.oclc.org/worldcat.
- (3) words or phrases in *internet* pages and documents. www.google.com. (m = million)
- (4) including "cultures" and "cultural" in OLC and Worldcat search (*not* in Google search).
- (5) including "economic" in OLC and Worldcat search (*not* in Google search); subset of row above.
- (6) including "the culture concept" and "definition of culture" in OLC and Worldcat search (*not* in Google search).

While the CED is at least two centuries old and CED-based thought has been foundational for many of the social sciences, its introduction into geography is of much more recent date. Only in the second half of the 20th century, did the CED oust the traditional man - environment dialectic, which was a defining characteristic of classical geography. With the introduction of the CED into geography and the rising interest in culture in general, the field of geography became increasingly dependent on fuzzy concepts (Markusen 1999; Rodríguez-Pose 2001). The same is also true for the other social sciences, albeit that in those the conceptual framework of the CED was already present at their 'births'.

"Culture" itself is probably the best example of such a fuzzy concept. With its increasing popularity, the concept of "culture" became increasingly ambiguous and increasingly contested. Cross-cultural psychologists, for example, measure the core value orientations they regard to be the essence of culture, while post-modernists (and many others) claim that culture is fundamentally immeasurable. It may be the case that 'the challenges of studying culture have little to do with unique measurement constraints, and more to do with persistent conceptual confluences that hamper our ability to produce consolidated knowledge' (Jepperson & Swidler 1994, p. 369). Consequently, the scientific value of the concept of "culture" (and of the CED) may be rather limited in its current state of chaos. However, 'a project linking economic with cultural analysis (...) is supported by an embarrassingly rich array of intellectual resources, which only the blinkers of conventional economic thinking prevent us from fully using' (Peet 1997, p. 46). Therefore, a thorough analysis of the CED, its concepts and theories, is needed.

1 / 2 / the research project

This book is the result of a research project on the history, meaning and implications of the culture - economy dialectic (CED). The focus of the project was on the (historical) development of the relationships between the concepts (and – to some extent – also the phenomena) of "culture", "economy" and "entrepreneurship". Its main question was not so much a question about actual cultural influence on the economy or vice versa itself, but about *what it means to ask this kind of question* and why this seems to be so important in and to social science. There were a number of interrelated goals (or parts) in the research project to answer this research question; most importantly: (part 1) to compare and analyse the existing theories of the CED, (part 2) to review their empirical (dis-) confirmation, (part 3) to construct some kind of synthesis and, finally, (part 4) to consider the relevance and implications of all of this to geography and social science in general.

Comparison and analysis of theories (part 1) starts with an analysis of the concepts used in these theories. To compare and analyse, and certainly to attempt a synthesis (part 3), theories have to be written in some kind of common language first. The same is required for

testing the theories (part 2): without a common language, without a set of *translation rules*, it is impossible to compare theories to empirical results. However, in the social sciences, common languages are rare, especially when culture is concerned. Hence, conceptual analysis is necessary to construct a common language for comparison, testing and synthesis of the (theories of the) CED.

There are some additional arguments in favour of a conceptual analysis of the CED in general and the concept of "culture" in particular. These are (2) the existing conceptual contestation and confusion regarding the concept of "culture" (see §§ 1.1 and 1.2.1); (3) the importance of the CED in the origins and disciplinary divisions of social science (see §§ 1.1 and 1.2.2); and (4) the strong relationships between language and culture (see § 1.2.2).

1 / 2 / 1 / conceptual contestation and confusion

The abundance of theories and empirical studies on the CED has led to a growing conceptual contestation and confusion, which is not necessarily damaging to the productivity of a field or social science as a whole, but which is very damaging to its theoretical foundations and to inter-theoretical communication. Concepts are used differently in different fields and different theories, and 'the almost exclusive reliance by social scientists on the use of terms derived from ordinary language usages results in an extreme proliferation of the meanings in which the most commonly used words are employed, thus producing a polysemantic jumble which appears to defy all normalizing efforts' (Dahlberg 1978, p. 142). Hence, 'concept reconstruction is a highly needed therapy for the current state of chaos of most social sciences' (Sartori 1984b, p. 50).

In 1952 Kroeber and Kluckhohn reviewed 168 definitions of "culture". This was years before "culture" became a buzz-word and the number of definitions, operationalisations and interpretations exploded (see figure 1.1). By now the word can mean almost anything. The problem is nicely summarised by Bohannan (1973): 'We define culture by whatever purpose we ascribe to it in our theorizing, and are hence allowed to continue on our way without examining it' (p. 358). This in itself would not be an insurmountable problem if the concept would be relatively unambiguous within the CED at least, but unfortunately this is not the case. The CED can be split up in two parts: (1) the influence of culture on economic development; and (2) the influence of the economy on culture. Both parts have been prey to conceptual contestation and confusion as illustrated below.

The *locus classicus* for the first part, culture and economic development (see *e.g.* Fukuyama 2001 for a brief introduction), is Weber's (1905) study on the relationship between Protestantism and entrepreneurship. Dominating this part of the CED in the last decades of the 20th century was empirical research based on Hofstede's (1980) measurement of cultural differences in value orientations. Kockel's *Regional culture and economic development* (2002a), an example of economic anthropology or ethnology, on the other hand, more or less equates culture to informal economy. These three examples are all

part of the research effort and literature on 'culture and economic development'. Nevertheless, "culture" seems to mean religion in the first case, value orientations in the second and is an extremely broad concept including informal economy in the last case. Moreover, especially anthropologists and ethnologists tend to define "culture" so broadly that it also includes institutions, which would imply that, for example, the literature on the relationship between economic freedom and economic growth is part of the CED literature. (On the other hand, institutionalists sometimes define "institutions" that broadly that the concept includes culture.)

Research on the second part of the CED is strongly influenced by Marx's (1859) 'historical materialism', but while the part of historical materialism most elaborated and most emphasised by Marx himself only claimed that the mode of production (as a part of the institutional arrangement of the economy) in a society determines (to some extent) the legal and political institutions of that society, many of his followers have broadened historical materialism to include all possible influences of the economy on culture. In the last decades, researchers, some of them from a Marxist background, some not, have claimed, for example, that wealth influences individualism (*e.g.* Lewis 1955; Franke, Hofstede & Bond 1991), work-ethic (Bell 1974) and post-materialism (Harris 1973; Inglehart 1977). As was the case with culture and economic development we can see that both "culture" and "economy", although not all theories of the CED are phrased in these terms, are interpreted very differently by different theorists.

To make matters even worse, the conceptual confusion surrounding the CED is reinforced by the fact that some scholars refer to earlier and other research without considering the differences in interpretation and/or operationalisation of the key concepts used. By now we can safely conclude that the core concepts of the CED, "culture" and "economy", are used and misused as buzz-words covering almost everything. As scientific concepts this has made them nearly useless. This does not necessarily mean that the theories and empirical research using these concepts are useless or meaningless, but merely that meanings have to be established, analysed and compared more rigorously than has thus far been customary. The fact that the concepts of the CED are used differently by different theorists in different theoretical contexts makes translation rules necessary for meaningful communication, but also makes final definitions impossible. Part of the goal of this study, therefore, was to provide a common language and a set of translation rules to be able to compare different theories and empirical findings within a single conceptual framework.

1 / 2 / 2 / language, culture and social science

The third and fourth arguments for conceptual analysis of the CED (§ 1.2) were: (3) the importance of the CED in the origins and disciplinary divisions of social science; and (4) the strong relationships between language and culture. Both arguments will be dealt with in detail later, but a brief explanation may be useful here.

In the eighteenth century, two competing worldviews, Enlightenment and Counter-enlightenment (or Romanticism), the first associated with reason, universalism and "civilisation", the latter with passion, tradition and "culture", gave birth to both the CED and to the – by now widely accepted – disciplinary divisions in social science. Especially the division between economics and sociology (or between economic and cultural geography) is the product of these two different worldviews (more on this in § 3.2.2). A thorough (conceptual) analysis of the CED may reveal the rationale or lack thereof behind these disciplinary divisions.

The fourth and final argument for conceptual analysis is based on Winch's (and others') claim that studying culture itself is conceptual analysis (*e.g.* Winch 1958). "Culture" is sometimes defined as meaning (*e.g.* Geertz 1973; Hall 1995; see also § 4.3.4) and the conceptual categories a group of people uses to classify reality, may be the most defining characteristic of its culture. Winch (1964), for example, asserts that 'in any attempt to understand the life of another society, (...) the forms taken by such concepts – their role in the life of the society – must always take a central place and provide a basis on which understanding may be built' (p. 324; more fully quoted and explained in § 2.2.2). Investigating another culture implies analysing the meaning and social role of core concepts of/in that cultural group. (see also §§ 2.1.1 and 2.2.2) Hence, studying conceptual analysis as a method for (a.o.) analysis of the history and theoretical implications of the CED (see § 1.2), may also result in a methodology for studying the influence of conceptual categories, as manifestations of culture, on economic behaviour (and the other way around).

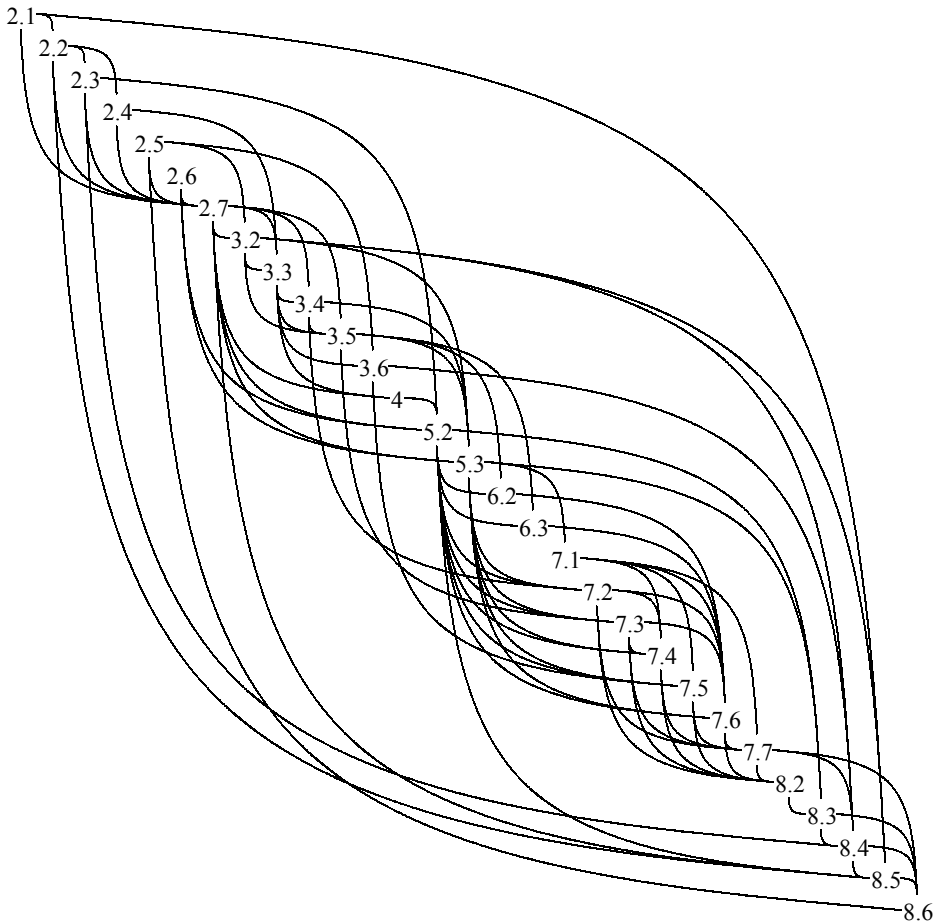
The fourth and ultimate part (or goal) of the research project is to investigate the value and implications of the CED for social science, more specifically: to determine the consequences of a (conceptually) cleaned up, integrated and – if possible – tested version of the CED for social science. This part of the research question is especially relevant to human geography as the CED is a relatively new conceptual framework in this discipline. CED-based thought took over from traditional geographic thought in terms of the man - environment dialectic only in the second half of the 20th century (also see above and §§ 3.6.2 and 8.4.1).

These implications may be of rather diverse natures. Most obvious, of course, are the implications for research on the CED itself, but as the CED is so strongly related to the disciplinary division and core concepts of social science itself, the implications may run deeper. If, for example, a thorough conceptual analysis of "culture" and "economy" does not result in a clear and objective demarcation between these concepts, this might be an argument for (inter-) disciplinary integration or a broader approach within (sub-)fields of social science at least. More practical implications may have to do with questions about (the possibility and methodology of) measurement of culture, economy and related categories, or, especially relevant to human geography, with the spatial scales of the CED.

1 / 3 / reading this book

Although the reader could, of course, choose to read only parts of this book and to read these parts in any possible order, there is a natural order in its contents. This is the order of the research project itself and the order in which the book was written. The structure of the book is illustrated in figure 1.2.

figure 1.2: *the structure of this book*



Lines represent main lines of thought on section level.

Purely introductory or summarising sections excluded; chapter 4 represented as a single section.

Chapter 2 describes the different approaches to conceptual analysis and concepts in philosophy, linguistics and a number of other scientific fields. The goal and final result (in § 2.7) of this chapter is an integrative methodology for conceptual analysis in social

science, grounded in the literature and applicable to the problem at hand. Chapters 3 to 5 apply the methodology developed in section 2.7 to (the concepts of) the culture - economy dialectic (CED). Chapters 3 and 4 focus on the historical development and different variants of the concepts and the dialectic itself, while chapter 5 is an attempt to (re-)construct a common language or a set of translation rules, based on the preceding chapters, for analysis and comparison of the theories of the CED. Chapter 6 attempts to operationalise and measure some of the categories in the framework proposed in chapter 5 for testing in chapter 7.

Chapter 7 evaluates and compares the theories of the CED with the help of the common language developed in chapter 5, with the ultimate goal of some kind of synthetic theory of *and* on the CED in chapter 8. Regarding the latter, chapter 7 will deal with some empirical test already published and add some new tests. It must be noted, however, that (this kind of) testing itself is not the main goal here and that, therefore, this will remain incomplete. Chapter 8, finally, deals with synthesis, with the evaluation of the implications thereof for geography and social science in general, and with some further theoretical considerations based on the findings of this study on the CED and social science.

1 / 3 / 1 / a note on reference

Whenever the historical context of theories or ideas is important, it is preferable to refer to the books in which these theories or ideas were formulated first by their original year of publication. When writing about Vico's *New science* for example it does not make sense to keep referring to it as Vico (1984), while the original publication in the first half of the 18th century is what matters. Applying the standard 'Vico (1984)' reference would therefore necessitate the addition of further dates, for example: Vico (1984[1725/44]). This however would result in very long references in the text. The most obvious alternative and the option chosen here, is to refer to books and articles by the date of their original publication. If there are (completely) revised later editions that had considerable impact, this second date is added. The before mentioned example of Vico's *New science* then will be referred to as Vico (1725/44) as 1725 is the year in which the first edition was published and 1744 is the date of the revised and more influential third edition. Unless noted otherwise it is always the latest edition, which is referred to. Letters are referred to by the year they are written. For example, Engels's letter to Joseph Bloch in Königsberg of September 21st, 1890 is referred to as Engels (1890). In the references at the end of the book the year of publication of the edition used, if different from the first mentioned year, is added after the name of the publisher. For example:

Vico, G. (1725/44), *The new science of Gianbattista Vico: unabridged translation of the third edition (1744) with the addition of "Practic of the New science"*, Ithaca: Cornell University Press, 1984

Quotations in this book are as close as possible to the original. English, German, French and Spanish quotes are given in the original language. Quotes in other languages are translated into English. Italics in quotes are copied. What is printed in *italics* here was printed in italics in the original. What is not printed in *italics* here was not in the original. Quotations from classical texts of which many editions are available refer to paragraph numbers (if available) rather than page numbers.

1 / 3 / 2 / symbols, formalisations and abbreviations

In some parts of this book formalisation is used to rigorously summarise theories or arguments presented in the text. These formulas are not part of the basic argumentative structure of the book, but are used as a tool to help comparison and synthesis of theories and arguments. Table 1.2 specifies set-theoretical, logical and special symbols that are not introduced in the text and are used throughout the book. All other symbols used are introduced, explained and (generally) defined in the sections where they are used first. (The symbols used in chapters 2 to 4 are introduced in chapter 2; the symbols used in chapters 6 to 8 are introduced in section 5.2 (mostly in box 5.1).)

table 1.2: *symbols used throughout the book*

$x \stackrel{\text{def.}}{=} y$	x is defined as y
$\{\dots\}$	set
$\langle \dots \rangle$	ordered set
\in	element
\subset	subset
\cup	union
\cap	intersection
$\forall x [\dots]$	all x such that ...
$\exists x [\dots]$	there is a (at least one) x such that ...
$\{ x \mid \dots \}$	the set of x such that ...
\wedge	and
\vee	or (inclusive)
$\neg x$	not x
$x \rightarrow y$	if x then y
$x \leftrightarrow y$	if and only if x then y (or vice versa)

Most of the formulas presented make some use of set-theoretical notions. (Most of the – relatively rare – logical formulas are based on sorted first order logics with identity.) Ordered sets are especially important in the first part of the book. The difference between 'normal' sets and ordered sets is that in the latter type a change in the order of elements

changes the set. For example, the set of numeric symbols $\{0,1,2,\dots,8,9\}$ is not dependent on the actual order of these numbers and is, therefore, not an ordered set. The most elementary form of an ordered set is an ordered pair. The variables in the relationship $x>y$, for example are an ordered set $\langle x,y \rangle$. As $x>y$ is different from $x<y$, $\langle x,y \rangle$ differs from $\langle y,x \rangle$. Ordered sets are used in this book mainly to formalise the ordered structure of 'things'. If it is assumed, for example, that all objects are essentially a combination of shape S and substance U, this could imply a definition: "object" $_{\text{def.}}\langle S,U \rangle$. The specific type of object "book" then could be defined something like: "book" $_{\text{def.}}\langle \textit{bound_sheets, paper} \rangle$. Order is important in this example to represent internal structure in the definition of an object and its species (e.g. "book").

Two of the most basic symbols in set theory are \in denoting set membership and the subset symbol \subset . $x \in A$ means that x is an element of set A . For example, 1 is an element of the before mentioned set of numeric symbols. $A \subset B$ symbolizes that A is a subset of B . This means that all elements of A are also elements of B , but not necessarily the other way around. For example, $\{1,2,3\}$ is a subset of the set of numeric symbols. The symbols \cup and \cap represent the set-theoretical operations of union and intersection respectively. The union of two sets is the set of all elements that are in at least one of these sets; the intersection is the set of all elements that are in both. For example, $\{a,b\} \cup \{b,c\} = \{a,b,c\}$ and $\{a,b\} \cap \{b,c\} = \{b\}$.

The other symbols presented in table 1.2 are logical symbols. The symbol \forall is the *universal quantifier*. It is used in logical formulas to introduce variables. For example, the formula $\forall x[Bx]$ should be read as 'all x-s are B'. \exists is the *existential quantifier*. Its use and meaning are similar to that of \forall : $\exists x[Bx]$ means 'there is a (at least one) x that is B'. The notation $\{x|\dots\}$ is superficially somewhat similar to quantifiers, but it is used to specify the *conditions for set membership* rather than for introducing variables. (It may, however, be used to introduce a set.) For example, $\{x|Ax\}$ is the set of all things that are A.

\wedge and \vee mean 'and' and 'or' respectively. Hence, $\forall x[Bx \vee Cx]$ means: 'all x-s are B or C or both' and $\exists x[Bx \wedge Cx]$ means that there is at least one x that is both B and C. The symbol \neg is used for *negation*. $\forall x[\neg Bx]$ then means that all x-s are not B. \rightarrow and \leftrightarrow are used to symbolize logical implication. For example: $\forall x[Bx \rightarrow Cx]$ is the symbolic equivalent of 'for all x-s, if these are B, then they are C', or shorter: 'all x-s that are B are C'. The difference between \rightarrow , the *conditional*, and \leftrightarrow , the *biconditional*, can be interpreted as a difference in the 'direction' of the implication. $\forall x[Bx \rightarrow Cx]$ implies that all things that are B are also C, but not vice versa. Hence, things can be C without being B. On the other hand, in case of $\forall x[Bx \leftrightarrow Cx]$, all things B are C and the other way around, which may make B and C more or less equivalent. In normal language statements on logical implication, the biconditional "if and only if" is often abbreviated "iff".

Formulas are numbered by chapter and coded T for theories and hypotheses or D for definitions. **D2.3** is the third formal definition in chapter 2. However, the number of some formal definitions and/or theories is marked by an asterisk: **D2.4***. The asterisk means that

this formalisation is *not* the final version of the definition (or the final formalisation of that theory). It will be adapted (or refuted) later in the text. If a number of a formula is indexed R it is repeated.

Double quotation marks ("...") are used only to refer to concepts only. Hence "culture" refers to the concept of "culture", not to the phenomenon of culture. In all other cases single quotation marks ('...') are used.

Throughout this book recurring terms are often abbreviated. These abbreviations are mentioned in the text. The "culture - economy dialectic" is generally abbreviated CED. Most other abbreviations are only used in a single chapter or (sub-) section (such as CA for "conceptual analysis" in chapter 2) and are introduced in these chapters or (sub-) sections.

chapter 2

ON CONCEPTS AND CONCEPTUAL ANALYSIS

In the beginning was the Word, and the Word was with God, and the Word was God.

John 1:1

A good word is like a good tree whose root is firm, and whose branches are in the sky; it gives its fruit at every season by the permission of its Lord. (...) And the likeness of a bad word is as a bad tree, which is felled from above the earth, and has no staying place.

Quran 14:24-26

2 / 1 / introduction

In the introduction to this book it was stated that its focus is on the conceptual and theoretical history of the culture - economy dialectic. One of the research goals is to explain what is or was meant by questions and statements about the relationships between culture and economy. Hence, part of this book is (a form of) concept(-ual) analysis (CA). However, there is no single field, theory or methodology of CA. Rather, there is a whole gamut of different approaches related to concepts and the elucidation of their meaning. This chapter is intended to give a brief (or at least as brief as possible) overview of these fields and sub-fields of CA resulting in some kind of synthesis which will provide the methodological framework for (some) later parts of the book. Hence, this chapter's ultimate goal is to construct a general model of concepts and a methodology of CA in social science.

Like all human behaviour, science is a linguistic effort. Without language there would be no science. Language provides the building blocks for science. Concepts and grammar (semantics and syntax) are the bricks and mortar of language. Sometimes, however, these bricks seem to be made out of jelly. CA is the elucidation of vague, but often very common, concepts. Famous early predecessors of conceptual analysis, Socrates and Plato, for example, discussed (mainly) ethical concepts, such as "goodness", in an attempt to find objective descriptions or definitions of these concepts. (Section 2.2 deals with the history of conceptual analysis.)

Conceptual clarity is necessary to enable reasonable communication within (social) science: 'A good word is like a good tree whose root is firm, (...) it gives its fruit at every season' (Quran 14:24). The 'bad trees', on the other hand, are the all too ambiguous concepts that cause misunderstanding and other problems in science and philosophy. Wittgenstein argued, for example, that (a lot of) philosophical problems originate from erroneous use of language: 'Denn die philosophischen Probleme entstehen, wenn die Sprache feiert' (Wittgenstein 1953, § 38). The same is (to a large extent) true in (social) science.

In the introduction to this book (§ 1.2), three arguments for a conceptual analysis of the culture - economy dialectic (CED) were mentioned. The first of these (*the abundance of theories and empirical operationalisations led to a growing conceptual contestation and confusion*; see § 1.2.1) is most strongly related to Wittgenstein's argument. The second and third arguments (2: *the CED and its history played an important role in the history of the social sciences*; and 3: *studying culture may imply studying (the social roles and meanings of) concepts*; see § 1.2.2) were of a very different nature. The second points at a conceptual evolution in the CED and is dealt with in subsection 3.2.2.

The third argument is related to the very complex problem of the relationships between culture, language and reality. This chapter studies conceptual analysis as a method for the analysis of the CED. However, conceptual analysis is not mere methodology. Language, rules, meaning and culture are closely linked. Studying culture implies studying language (e.g. Winch 1958). '[L]anguage affects and reflects culture just as culture affects and reflects what is encoded in language' (Fantini 1995, p. 145). Similarly, language reflects reality just as reality is perceived through the categories of our language. Before focusing on conceptual analysis and the concept of "concept" itself (in subsection 2.1.2), it may, therefore, be useful to look at the complex relationships between language, culture and (the perception of) reality.

2 / 1 / 1 / language, culture and reality

Social reality is conceptually structured. We perceive, understand and classify social reality through our conceptual categories. 'Language, in fact, both reflects and affects one's world view, serving as a sort of road map to how one perceives, interprets and thinks, and expresses about the world' (Fantini 1995, p. 144). Mediated by our concepts, it is our culture that thinks in us (Gellner 1992).

The – by far – best known theory on the influence of language on our perception of reality is the Sapir-Whorf thesis (SWT). SWT is a form of conceptual relativism, but not the first or only form. Conceptual relativism claims that different groups have different languages with different concepts and, therefore, different interpretations and/or perceptions of reality. Conceptual relativism or related ideas can be found in the work of (among others) Locke, Hamman and Herder (see e.g. Aarsleff 1982;1988) and Kant (1781/7), who claimed that perception without concepts is blind. The most important predecessor of SWT, however,

was Wilhelm von Humboldt. According to Humboldt, who was strongly influenced by Herder, language gives shape to the intellectual life of nations and societies. Language is not just a means of communication, language is thought; our language determines the conditions of our life. (Humboldt 1836; 1836-9; Hennigfeld 1976; Aarsleff 1982; 1988) SWT was (re-)introduced by Sapir and Whorf in the early 20th century, but some scholars claim that Nietzsche and/or Korzybski forwarded a similar thesis earlier (*e.g.* Hennigfeld 1976; Pula 1992). Sometimes, especially by anthropologists, Boas is mentioned as one of the fathers of SWT as well (*e.g.* Hill & Mannheim 1992).

SWT can be summarised pretty well by these two quotes from its founding fathers:

[T]he 'real world' is to a large extent unconsciously built up on the language habits of the group. No two languages are ever sufficiently similar to be considered as representing the same social reality. (Sapir 1929; p. 209)

We dissect nature along lines laid down by our native languages. The categories and types that we isolate from the world of phenomena we do not find there because they stare every observer in the face; on the contrary, the world is presented in a kaleidoscopic flux of impressions which has to be organised by our minds – and this means largely by the linguistic systems in our minds. We cut nature up, organise it into concepts, and ascribe significances as we do, largely because we are parties to an agreement that holds throughout our speech community and is codified in the patterns of our language. The agreement is, of course, an implicit and unstated one, but its terms are absolutely obligatory; we cannot talk at all except by subscribing to the organisation and classification of data which the agreement decrees. (Whorf 1956, p. 213)

SWT consists of two parts: (1) linguistic determinism and (2) linguistic relativity. Linguistic determinism is the hypothesis or theory that the language we use determines (to some extent) how we perceive the world and how we think about it:

English and Chinese are simply two different ontological systems. To learn a foreign language is to study a different ontology. Therefore, to communicate with an alien culture is not to absorb the truths it discovered, but to learn to see or think of the world in a different way. (Zhifang 2002, p. 169)

Perception starts with and is determined by conceptualisation: 'In the beginning was the Word, (...) and the Word was God' (John 1:1). In the strong version of the theory of linguistic determinism, language determines perception and thought; in the weak version language merely influences these. Linguistic determinism is the most contested part of SWT. Lucy (1997) categorises and reviews the empirical research on (this part of) SWT and concludes that more and better research is needed. Recently Davidoff (2001) found some evidence for the strong version of linguistic determinism.

SWT claims that we perceive culture and economy, *because* we have these concepts "culture" and "economy". Other languages with other classifications are possible, have existed, and still exist. The CED itself may be the product of our conceptual classification not of some distinction that is really 'out there'. The CED is a product of Western thought and language, not a universal phenomenon and/or scientific problem. The Japanese language, for example, does not have an equivalent of "culture" (although, according to Mishima (1984), *iki*, *furyu*, *miyabi* and *do* all come near to *some* interpretations of "culture", but neither can be used in compound terms as is common practice with "culture").

According to linguistic relativity, categories, concepts or classifications are unique to specific languages. Language divides or classifies reality in arbitrary concepts or categories and there is no limit to the number of possible classifications. Hence there is no limit to the conceptual diversity among languages. Cultural differences between conceptual classifications have been studied by numerous scholars (*e.g.* Whorf 1956; Brown 1958; Hunn 1982; Lakoff 1987; Waxman 1991; Clark 1991; Anglin 1995). Wierzbicka (1991) found that even truisms are culture specific. Concepts are, however, not just *different* between cultures, but '[c]oncepts are heavily determined by cultural tradition' (van Looche 1999, p. 4). Some scientists (*e.g.* Hill & Mannheim 1992; Grucza 2000) reject the distinction between language and culture altogether. Different ways to classify reality and/or experience are often determined by differences in practical utility and cultural significance (Anglin 1995): 'Of the indefinitely large number of concepts that humans are capable of forming, words are coined for those conceptual categories and distinctions that are functionally important enough for people to communicate about with each other' (p. 176).

SWT did not finish with Sapir and Whorf of course (see *e.g.* Hill & Mannheim 1992 or Hunt 2001 for an overview of more recent work on SWT) and there are some theories related to SWT within philosophy. Linguistic relativity is related to Davidson's (1974) 'conceptual schemes'. 'Objects' do not exist independently of conceptual schemes. *We* cut up the world into objects when we introduce one or another scheme of description' (Putnam 1981, p. 52; see also Goodman 1972). Linguistic determinism is (a.o.) related to Hanson's (1958) claim that perception is theory-laden, Foucault's (1969) discursive construction of social reality and social constructivism (in general). The term 'social constructivism' was coined by Berger and Luckmann (1966). Early predecessors were (a.o.) Berkeley's (1710) idealism and Marx and Engels (1846/1932) on the influence of ideology on social reality. Constructivism generally claims that science constructs the perception and representation of reality. However, some constructivists go one step further and make the ontological claim that science constructs reality itself.

SWT has drawn much critique. In particular linguistic determinism is fiercely contested (*e.g.* Bunge 1974; Pinker 1994; 1997). Bunge (1974) claims that language does not influence perception or thought, but that language is ontologically neutral, although some languages (ordinary / natural languages especially) are not rich enough to express certain



ideas about reality. Strangely, Pinker's (1994) widely acclaimed critique of SWT does not deal with any other languages (or cultures) than English (*e.g.* Wierzbicka 1997) and should on this ground alone be rejected as a serious contribution to the debate.

As conceptual classifications are determined by practical utility and cultural significance (Anglin 1995), they are subject to change. Concepts are subjective and changing tools to deal with a complex world. There are evolutionary paths from manual skills to the concepts in (of) language(s) (Arbib & Rizzolatti 1999). Our concepts are the result of an evolutionary process of adaptation to changing circumstances (*e.g.* Slurink 2002). This, however, does not imply that our conceptual structure is always and necessarily the best possible representation of reality (of the time). Concepts are developed as representations of reality in order to increase fitness, not to create a mirror of the environment (Peschl 1999). Moreover, as circumstances change permanently, we are always one step behind. And to complicate things even further, circumstances do not only vary over time but also over space and over social groups. Evolutionary change is not teleological. It is a process dependent on reproductive success. Conceptual evolution, similarly, is dependent on the (re-) productive success of concepts and/or conceptual structures. Conceptual evolution does not lead to more *objective* or *truthful* conceptual representations of external reality; it only advances those concepts that are most (*re-*) *productive* in theoretical developments and practical applications.

The question, of course, is how to build a (social) science on a subjective and changing conceptual foundation. There are two basic strategies available to deal with this problem. The first is to restrict theorising to a model of reality instead to reality itself. This is the path chosen by mainstream economics. However, if science is to make claims about the real world rather than some mathematical model, this does not seem to be the most appropriate or (even) obvious path. The second strategy starts with recognition of the fact that our conceptual representation of reality is (necessarily) far from perfect, and with a critical evaluation of the concepts we use and how these concepts shape our interpretation of reality. This second strategy implies that every research project should start with conceptual analysis.

2 / 1 / 2 / on words and concepts

Conceptual analysis (or concept analysis) is the analysis of concepts. However, the concept of "concept" itself is far from clear:

[T]here is considerable disagreement about what exactly a concept is. Psychologists tend to use 'concept' for internal representations, for example, images, stereotypes, words that may be vehicles for thought in the mind or brain. Logicians and formal semanticists tend to use it for sets of real and possible objects, and functions defined over them; and philosophers of

mind have variously proposed properties, 'senses', inferential rules or discrimination abilities. (Rey 1998, p. 505)

"Concept" is a member of a set of related concepts that also includes (a.o.) "word" and "term". Words as lexical items 'are triplets of phonological structure, syntactic structure, and meaning' (Jackendoff 2002, p. 51). Elsewhere Jackendoff speaks of 'long term memory associations' instead of 'triplets' and of 'conceptual features' as synonymous to 'semantic features' (2002, p. 130). A word then, is just a convenient label for a concept. The concept is the meaning of a word. The difference is illustrated nicely and very interestingly in Motter *et al.* (2002), who defined two *words* similar if they represented more or less the same *concepts* and mapped these connections between words in the English language. They found that 'one only needs three steps on average to connect any two words in the 30.000-words dictionary' they used and that 'in fact, less than 1% of the words require more than four steps to be reached from any given word' (p. 065102-2).

Concepts have been studied from various, very different, perspectives. Pathak (2000), for example, distinguishes eight types of research on concepts, some of which are subdivided even further. The bulk of the research on concepts, however, can be divided up into three main types or fields: (1) philosophical research, (2) research on concepts in social science, and (3) concept analysis for improvement of knowledge and information exchange, as in nursing or computer science. These three research fields are, however, closely linked.

Different goals and different sets of concepts for analysis may result in different concepts of "concept" and different interpretations of the concept of "concept" may induce different approaches in studying them. Roughly speaking, concepts of "concept" are positioned on a scale from very general to very specific. Most general are the interpretations of "concept" in psychology and most of philosophy. For example, Laurence and Margolis 'take concepts to be sub-propositional mental representations' (1999, p. 4). Hence, anything in our thought smaller than a (short) sentence is a concept. Even more abstract, Barsalou *et al.* claim that 'concepts are models for types of individuals in world models' (1993, p. 23). (More about the different philosophical theories on the nature of concepts in § 2.2.3.) A little bit less general are definitions of "concept" as applied in concept analysis in social science and concept analysis for information exchange. Sartori (1984b), for example, defines concepts as the basic units of thinking and claims that: 'It can be said that we have a concept of A (or of A-ness) when we are able to distinguish A from whatever is not-A' (p. 74). Concepts are nouns or sometimes adjectives or verbs (or, even more rarely, compounds of these with a meaning different from their parts) referring to something in extra-linguistic reality. Dahlberg (1978), working in the same field as Sartori, suggests regarding concepts as units of knowledge, rather than as units of thought. However, the standard definition of "concept" with respect to social science terminology is established in ISO 1087 (see § 2.3.1), where a concept is (defined as) 'a unit of thought constituted through abstraction on the basis of properties common to a set of objects' (def. 3.1).

Very specific are the notions of "concept" as applied in conceptual history (*Begriffsgeschichte*) and management fashion research, fields that are not recognised by Pathak (2000) (and most other scientists and philosophers of language and concepts) as belonging to the concept research field. The specific interpretation of "concept" in these fields is, of course, related to the very specific types of concepts studied. According to Koselleck (1972), the leading figure in conceptual history, concepts are not just words: concepts, or better *geschichtliche Grundbegriffe*, are social factors with systematically ambiguous meaning. Similarly, the philosopher and anthropologist Gellner (1992) interprets concepts as socially shared compulsions. Concepts as social factors do not only describe social and political reality, but partly also (re-)produce it. Concepts are systematically ambiguous in the sense that they, contrary to other words, cannot be disambigued by a certain context. Concepts are ambiguous, whatever the context (see § 2.4.1). Gallie (1956) regarded many concepts in (a.o.) social and political philosophy to be *essentially contested*. These concepts are necessarily ambiguous because of their function in philosophical and scientific debates.

In management fashion research, the concept of "concept" has a similar (but not identical) specific meaning. However, the term "concept" is not used very often. The term "management concept" is more or less synonymous to "management fashion" and to "management theory". These three different terms only differ according to which part of the phenomenon they emphasise. A concept (in this sense) is term, theory (content) *and* context (which includes the fashion perspective). As in conceptual history, management concepts are social factors and are systematically ambiguous. (e.g. Abrahamson 1991; 1996; Benders & van Veen 2001) (see § 2.4.2) The theory-ladenness and ambiguity of concepts in these more specific interpretations was advanced earlier by a number of analytical philosophers, including Popper (1935), Hempel (1952) and Wittgenstein (1953), although Hanson (1958) was probably the first to actually use the term "theory-laden". Popper argued that concepts are references to extra-linguistic reality within a theoretical framework and that, therefore, all concepts are theoretical. According to Hempel, concept formation and theory formation 'constitute virtually two different aspects of the same procedure' (1952, p. 2).

In a philosophical analysis of the phenomenon of management concepts ten Bos (2000) argues in favour of the fashion-perspective usually adopted in the management fashion literature and against a more utopian perspective (as in definitional analysis). He claims that concepts, and the theories they are labels of, should be seen as fleeting fashions, not as utopian final truths. This fits nicely within the evolutionary perspective on concepts (in general) mentioned above. Concepts should be seen as part of their temporal and social context. In most approaches to conceptual analysis this is, however, hardly the case.

Moving from the very general to the very specific, the concept of "concept" becomes less of an ontologically neutral building block of thought and language, and more of a theory-laden and reality-shaping social phenomenon. The position most of analytic philosophy may be characterised as somewhere in the middle. The perspective chosen depends on the

goals of the analysis but also affects its outcomes. For studying language in general (within, for example, a psychological or cognitive framework), the most general perspective is probably the most appropriate. For studying the influence of political history on the changing meaning of concepts and the other way around, the very specific perspective of *Begriffsgeschichte* is more fitting. The question is: where does (and/or should) concept analysis in social science fit in?

The language of social science contains words of various types. It includes various connectors and prepositions, which usually have very clear meanings. Accordingly, these are not the subject of concept analysis. The concepts studied, on the other hand, are mostly nouns (or sometimes adjectives or verbs) describing complex social phenomena. The website of the Committee on Concepts and Methods of the International Political Science Association (IPSA) (www.concepts-methods.org) hosts a bibliography of 86 social and political science concepts (last checked in March 2005), all of them nouns, all of them describing social phenomena or ideas (instead of things).

Social science concepts are strongly theory-laden. They are usually introduced as a part of a theory and are often even the catchwords of theories. In a sense, social science concepts are not just theory-laden, but theories in themselves. As theoretical concepts, social science concepts shape our perception of social reality. By implication, social science concepts are social factors. Moreover, social science concepts seem to be systematically (or essentially; Gallie 1956) ambiguous. (However, whether the ambiguity of these concepts is truly systematic or a curable consequence of sloppy use of language, is a point for discussion.) Hence, social science concepts are very similar to the concepts studied in *Begriffsgeschichte* and management fashion research. Like management fashions and *geschichtliche Grundbegriffe*, social science concepts are ambiguous, theory-laden social factors.

2 / 1 / 3 / this chapter

The division into sections of this chapter is partly based on the interpretations of the concept of "concept" described above and partly on the *degree of isolation*. The latter refers to the subject of the philosophies and theories presented. The first sections deal with the analysis of isolated concepts, later sections deal with pairs and systems of concepts.

Section 2.2 describes the history and concepts of conceptual analysis in philosophy. The application thereof on a number of fields and the (formal) methods used are the topic of section 2.3. This division coincides with that in the section above: 2.2 deals with very abstract concepts; section 2.3 with the more intermediate conception of "concept" in (a.o.) the social sciences. Theories of concepts as social factors or theories, such as *Begriffsgeschichte* and management fashion theory are explained in section 2.4. These theories also share their strong emphasis on the temporal context of concepts.

The other sections of this chapter – as mentioned – relax the isolation of concepts. Section 2.5 deals with pairs of opposing concepts in dialectics, deconstruction and similar theories. Section 2.6 describes approaches to analyse conceptual systems or structures, languages and ontologies. The concluding section 2.7 is an attempt to reach some kind of synthesis in a general methodology of conceptual analysis.

2 / 2 / conceptual analysis in philosophy

Conceptual Analysis (CA) as a current in (analytic) philosophy emerged in Cambridge (UK) during the first half of the twentieth century. Its main representative was Moore. Important influences were Locke, Kant and Frege's analysis of numbers. The movement spread to Oxford with Ryle and Austin and from there to the United States. Heavily criticised by (a.o.) Quine (in what was itself a brilliant conceptual analysis of the concept of "analyticity"), it was more or less extinct by the end of the 1970s.

Language has been a subject of philosophical inquiry since earliest times. How philosophers in different periods dealt with language, however, changed considerably. Besides analytical philosophy, several other fields both in and outside philosophy dealt and deal with language, concepts and meaning. This section deals with conceptual analysis as part of analytic philosophy (§ 2.2.1), with other philosophical currents dealing with language and meaning (§ 2.2.2) and gives a (very) brief overview of philosophical ideas on concepts, meaning, definition, etc. (§ 2.2.3).

2 / 2 / 1 / a short history of conceptual analysis

The early history of CA started in Greek Antiquity. According to Aristotle (*Metaphysica*), Socrates was the first who practised conceptual analysis. Socrates, however, was only interested in ethical concepts. His most important student, Plato (*the Republic*, *Phaedrus*, *Eutyphro*), also attempted to analyse non-ethical concepts (although the main focus remained on ethical concepts). According to Plato, less common concepts had to be understood as species or parts of more common concepts and more common concepts had to be taken apart into their less common parts. Plato and his most important student, Aristotle, asserted that definitions had to be discovered in some absolute metaphysical realm. Words had a true meaning that should and could be discovered.

The main question about concepts after Antiquity, in the Medieval period, was not so much on meaning or analysis, but on the metaphysical nature of concepts. Following Plato and Aristotle, 'realists' believed that concepts as universals actually exist independently of the things represented by those concepts. 'Nominalists', on the other hand, believed that

universals are nothing but names and that only the objects they refer to actually exist. (e.g. Moreland 2001; see also § 5.2.3)

There is no easy demarcation of a second start (after Antiquity) of the problematisation of the meaning of concepts, of conceptual analysis, but there are some important predecessors of modern conceptual analysis in the centuries following the Middle Ages. One of the first of these may have been Francis Bacon, one of the founding fathers of empiricism and the modern scientific worldview. Bacon (1620) distinguished four types of 'idols', false preconceptions or fallacious tendencies of the human mind, the third of which was the *idola fori* (the idol of the marketplace). The *idola fori* is the confusion arising from the overestimation of the objectivity and rigor of language. Concepts are used sloppily, while often the contrary is expected or assumed, which makes language misleading.

One of the goals of Leibniz (and many of his contemporaries) was the construction of a general theory of language including logic, semantics, syntax and pragmatics. Leibniz wanted to construct a language based on one-to-one relations between symbols or signs and simple concepts. He never achieved this goal. Leibniz's most important contribution to CA may have been his claim that a concept is clear if it enables us to recognise the objects falling in its category; in other words, when it provides clear boundaries of that category (Leibniz 1684).

Most influential on 20th century CA within analytic philosophy were, probably, Locke and Kant. Locke (1690) argued that complex general ideas had to be decomposed in sets of more simple ideas. Kant (1781/7) distinguished analytic from synthetic propositions. The first being true (or false) by virtue of their conceptual (and logical) content alone; the latter being true (or false) by virtue of conceptual content plus some non-conceptual element. (For more on Kant's considerable influence on analytic philosophy see e.g. Hanna 2001.)

Although it is usually claimed that analytic philosophy started with Moore, it seems to be justifiable to include Frege. Especially Frege's (1879) *Begriffsschrift* (a system of symbolic logic), his analysis of mathematical concepts (especially numbers) (1884) and his distinction between *Sinn* (sense) and *Bedeutung* (reference) of a concept (1892) were profoundly influential. The founding father of modern CA was the Cambridge-based philosopher Moore. Moore believed that philosophical problems do not arise from the world or from science but from the works of other philosophers, especially from the intentions of these works (Moore 1942a). The main goal of Moore's philosophy (1922; 1959) was, therefore, the analysis of ordinary language. His method of CA consisted of three parts: (1) inspection: the researcher studies the concept and tries to explain it as clearly as possible; (2) decomposition: clarification by decomposition of the concept in its composing parts (compare Locke, above); and (3) delimitation: specification of the limits or boundaries of the concept. The second part hereof seems to be the most important (Moore 1942b) and usually took the form of a traditional definition *per genus et differentiam specificam* (a specification of the broader type (*genus*) and what distinguishes the concept from this broader type (*species*)).

Next to Frege and Moore, the most important figures in early analytic philosophy were Russell and Wittgenstein, also Cambridge-based. Russell deemed ordinary language unfit for science or philosophy. Ordinary language is too vague, too confused and too full of errors to make it possible to correctly express fundamental philosophical truths. By careful analysis, some of these problems, however, may be cured. With Whitehead, Russell wrote a rigorous analysis of mathematical concepts, the *Principia Mathematica* (Whitehead & Russell 1910-3).

The early Wittgenstein (1922) set out to show the limits of language. According to Wittgenstein, language distorts and limits thought and, in doing so, limits reality: '*Die Grenzen meiner Sprache bedeuten die Grenzen meiner Welt*' (5.6). Language, however, not only limits, but is limited itself; that is, its meaningful use is limited. Wittgenstein asserted that a lot of, especially philosophical, language use was (and is) senseless:

Die meisten Sätze und Fragen, welche über philosophische Dinge geschrieben worden sind, sind nicht falsch sondern unsinnig. Wir können daher Fragen dieser Art überhaupt nicht beantworten, sondern nur ihre Unsinnigkeit feststellen. Die meisten Fragen und Sätze der Philosophen beruhen darauf, daß wir unsere Sprachlogik nicht verstehen. (4.003)

On definitions, Wittgenstein claimed that these are rules for translation: 'Definitionen sind Regeln der Übersetzung von einer Sprache in eine andere' (3.343).

The most important centre of early analytic philosophy outside Cambridge was Vienna. In Vienna, a group of philosophers and scientists regularly met in the *Wiener Kreis*. (The best introduction to their philosophy is available in Ayer 1936.) The (probably) most important member of the *Wiener Kreis* was Carnap. Carnap wrote about the *Wiener Kreis*: 'In our discussions in the Vienna Circle it had turned out that any attempt at formulating more precisely the philosophical problems in which we were interested ended up with problems of the logical analysis of language' (Carnap 1963, p. 55). Carnap (1928) warned for *Sphärenvermengung*, the neglect of distinctions of logical types of concepts. On his book *Logische Syntax* (1934), he later wrote that 'many philosophical controversies actually concern the question whether a particular language form should be used' (1963, p. 54), and that 'Language analysis, in our view the most important tool of philosophy, was first systematized in the form of logical syntax; but this method studies only the forms of the expressions, not their meanings. An important step in the development of language analysis consisted in the supplementation of syntax by semantics, i.e., the theory of the concepts of meaning and truth' (Carnap 1963, p. 60).

Two attacks ended the early period of analytic philosophy and CA. The first was the *paradox of analysis* (Langford 1942), the second were *the two dogmas of empiricism* (Quine 1951; dogma 1: the analytic - synthetic distinction; dogma 2: the assumption that all statements may be reduced to statements about immediate experiences). Langford (1942) introduced the term "paradox of analysis" (although the idea was older) for a major

problem in the theory of CA: for an analysis to be correct, both concepts (the *analysandum* and the *analysans*) must be completely identical. Hence CA is tautological, trivial and non-informative and epistemologically useless (or shorter: analyses are either trivial or wrong). Important reactions to Langford include those by Black (1944) and White (1945). Moore himself, at whom Langford's attack was primarily aimed, recognised the paradox but had no solution. Several solutions of the paradox have been proposed. Most, however, are not very successful. Hanna (1998), for example, offers a solution based on the work of Kant. He claims that an analytic definition of a concept offers important novel *noetic* information but no semantic information, hence that an analysis is informative after all. (Carnap suggested a solution of the paradox based on the notion of "intensional isomorphism", which is dealt with in subsection 2.2.3.)

Far more damaging than the paradox of analysis was Quine's (1951) analysis of the concept of "analyticity". The shortest possible definition of "analytic" probably is "true by definition plus logic". Quine claimed that analyticity is based on synonymy and that every analysis of synonymy ends in circularity. As analyticity cannot be analysed it is not a useful analytic concept, neither is there an empirical clarification of the distinction between analytic and synthetic statements. Hence, the concept of "analyticity" (and CA with it) has to be abandoned. (On the problem of analyticity see also Bealer 1998.) Moreover, concepts cannot be analysed apart from the broader structure they are part of. Concepts derive their meaning from the (theoretical) structure and the social group they belong to. According to 'confirmation holism' (also known as the 'Quine-Duhem thesis'), theories can only be tested and confirmed (or refuted) as a whole.

Grice and Strawson (1956) answered Quine's attack with 'a defence of a dogma'. They claimed that the deep-rooted use of the distinction in philosophy alone provides enough reason not to abolish it. Moreover:

Quine requires of a satisfactory explanation of an expression that it should take the form of a pretty strict definition but should not make use of any member of a group of interdefinable terms to which the expression belongs. (...) It would seem fairly clearly unreasonable to insist *in general* that the availability of a satisfactory explanation in the sense sketched above is a necessary condition of an expression's making sense. It is perhaps dubious whether *any* such explanations can *ever* be given. (p. 148)

As Grice and Strawson asserted that an explanation in the strict sense as assumed by Quine may be impossible, they also answer Langford, who based his paradox on the same strict interpretation. As Quine's analysis of the concept of "analyticity" and Langford's paradox are based on a very strict (classical) interpretation of analysis, it may be the case that they, rather than refuting analyticity itself, refuted this strict interpretation. A less strict interpretation of analysis is needed: 'The fact, if it is a fact, that the expressions cannot be explained in precisely the way Quine seems to require, does not mean that they cannot be explained at all' (Grice & Strawson 1956, p. 149).

After Langford and Quine, philosophy of language moved into new directions. These changes were reinforced by the publication of Wittgenstein's *Philosophische Untersuchungen* (1953). The later Wittgenstein was (a.o.) influenced by American pragmatism (see § 2.2.2). According to Wittgenstein, the meaning of a word is its use (§ 43). Concepts derive their meaning from rules guiding their use. Knowing a concept is not knowing its definition but being aware of its role in thought and communicative practice. Inspired by Wittgenstein, Kuhn (1962) later asserted that someone understands or has a concept if he understands theories in which that concept is used and/or can reason with that concept.

Wittgenstein introduced the concept of "language-game". The concept refers to the use of language in a specific context. Its main merit was to focus the attention of linguists and philosophers on the context of language use: the socio-cultural group a specific word or sentence is used by, the background of the members of this group, the characteristic situations in which the word or sentence is used, and so forth. Although extremely influential, Wittgenstein was not part of the movement of CA itself. This movement moved from Cambridge to Oxford, where Ryle, Austin and Strawson were the most important names in the second phase of analytical philosophy. They were heavily influenced by Moore and Wittgenstein and believed that most philosophical problems are caused by a limited insight in the workings of language.

According to Ryle (1932), philosophical analysis of ordinary language may clarify human thought by eliminating misleading and/or wrong linguistic forms. Philosophers should not study meaning, but why certain combinations of expression make no sense. A special case of such a senseless expression is the *category mistake*. Ryle (1949) claimed that concepts belong to categories and that concepts from different categories should not be confused. Philosophical confusion grows from category mistakes, misapplication of categorically different terms. In his most famous book, *The concept of mind* (1949), Ryle exposed a category mistake by dualists, who see the psychical and the physical as belonging to the same category of substance.

Austin, an admirer of Moore, published very little during his lifetime. Austin was mainly interested in ordinary language. His main concern was: what to say when. Austin was convinced that (1) ordinary language contains all the distinctions people found necessary to make; hence, ordinary language is a far more powerful and subtle tool than usually recognised; (2) philosophers misuse language; and (3) philosophical progress is possible by careful examination of the vocabulary in which a problem arose (Austin 1961, 1962). Strawson (1959) asserted that the analysis and description of concepts should be complemented by a more general metaphysical research program, that describes the most fundamental characteristics of the conceptual system of ordinary language.

Wittgenstein's (1922) idea of definition as translation influenced Quine and through him (a.o.) Sellars and Davidson. Quine's (1960) 'radical translation' is translation of concepts without knowing the language to be translated. Radical translation, like first language learning, can only – and therefore, must – be based on observed linguistic behaviour.

Traditionally, concepts are seen as referring to extra-linguistic objects. However, Sellars (1963) explains that the only way to explain a concept is to compare the role of that concept in its language or conceptual framework with another, similar concept in a known language (known to the interpreter). A concept is a linguistic classification that can only be explained in or with the help of other linguistic classifications or sets of categories. All description, explanation, or definition is linguistic. Concepts cannot be described extra-linguistically. Hence, (1) concepts are not learned in isolation, but as part of a language; and (2) CA is translation (Sellars 1963, see also Brown 1986). Sellars disputes 'the myth of the given': there is no intrinsically basic language. Every language can be a 'first language'. As this implies that there are as many possible 'first languages' as there are languages (in general), there can be no absolute translation of concepts.

As concept analysis is translation, not reference, studying concepts or studying conceptual systems (or frameworks or cultures) implies learning a second language (often abbreviated as L2 learning). (Similar ideas have been expressed by (a.o.) Winch (1958) and Gadamer (1960) (see § 2.2.2).) However, L1 (first language) concepts are extremely influential in the interpretation of similar L2 concepts. 'When writing or speaking the target language (L2), second language learners tend to rely on their native language (L1) structures to produce a response' (Bhela 1999, p. 22). A L2-learner learns this language partly in terms of the meanings already learned in L1 (Carroll 1964; Albert & Obler 1978 and Larson-Freeman & Long 1991), and all L2 learners begin by assuming that for every word in L1 there is a single translation equivalent in L2 (Blum-Kulka & Levenston 1983). In L2 practice this is reflected in 'concept mediation', the (empirically confirmed) theory that there are no direct links between L1 and L2, but that L2-speaker think of the word in own language, try to specify its meaning (step 1: concept activation) and then try to find the appropriate word in L2 for this meaning (step 2: word retrieval) (e.g. Kroll & Stewart 1994, la Heij *et al.* 1996, de Groot & Poot 1997).

As was Sellars, Davidson was deeply influenced by Quine. He based his theory of 'radical interpretation' (1973) on Quine's 'radical translation'. However, he contended that translation is insufficient to understand a language. Radical interpretation is the interpretation of linguistic behaviour of a speaker without knowing anything about his language, beliefs, meanings, etc. The core problem of radical interpretation is that it is impossible to understand the meaning of utterances, without understanding the speakers language, beliefs, meanings, etc. and *vice versa* (see also Davidson 1967). The only way out of this 'hermeneutic circle' (see § 2.2.2) is to assume that the speaker has the same language, beliefs, meanings, etc. and slowly adapting this assumption to newly learned ideas about the speakers actual same language, beliefs, meanings, etc. until some kind of equilibrium is reached.

Davidson's radical interpretation is more or less contradicted by Jackendoff's (1991) 'conceptual semantics', which asserts that there is a conceptual structure, a form of mental representation, 'that is common to all natural languages and that serves as the 'syntax of thought'' (p. 10) and by Wierzbicka's (e.g. Goddard & Wierzbicka 1994; Wierzbicka 1997)

claim that there are approximately 60 *semantic primitives* or *lexical universals* that are common to all languages and to which all concepts can be reduced. Corson (1995), on the other hand, even outpaces Davidson, claiming that languages are so different that meaningful communication is more or less impossible.

To Quine's 'two dogmas', Davidson's added a 'third dogma of empiricism' (1974). This third dogma entails the notion that conceptual and empirical knowledge cannot be distinguished because we cannot distinguish the 'subjective' contribution to knowledge coming from ourselves from the 'objective' contributions coming from the world. Attitudes, beliefs, perceptions, etc. are causally, semantically and epistemically linked to objects and events in the world, which makes it impossible to distinguish these 'objectively'.

By the 1970s, CA was extremely unfashionable in philosophy and linguists were primarily dealing with syntax. CA, however, by this time spread to the social sciences and beyond (see § 2.3). However, the philosophy of language remains one of the most important fields within modern philosophy and some language philosophers still dare to do CA. Very recently, for example, Jackson (1998) defends a modest role for CA:

Conceptual analysis is not being given a role in determining the fundamental nature of our world; it is rather, being given a central role in determining what to say in less fundamental terms given an account of the world stated in more fundamental terms. (p. 44)

2 / 2 / 2 / concepts and meaning outside analytic philosophy

Language, concepts and meaning have been studied from a variety of perspectives. Within philosophy, analytic philosophy hardly has a monopoly on language and outside philosophy there is a whole scientific field studying language: linguistics. The most basic division of the field of linguistics is that in syntax (or syntactics), semantics and pragmatics. Syntax studies grammar; semantics focuses on meaning; and pragmatics is the study of the (actual) use of language. A further, strongly related field is semiotics, the study of 'signs'. As language is a specific use of specific symbols, linguistics may be considered part of semiotics.

Modern semiotics was founded by Peirce and de Saussure, but was superseded by, for example Plato, who wondered (in *Kratylos*) whether words have a natural or necessary form that is linked to their meaning or are merely conventional signs, and by Aristotle and Augustine. Peirce wanted to study signs and symbols from a philosophical perspective. De Saussure was specifically interested in language as a system of signs. The central problem of semiotics is the question regarding how one thing can mean another, how a sign *x* can induce a person to think about *y*. Semiotics is an extremely broad field, as almost anything can be interpreted as a sign. Peirce defined the concept of "sign" in a letter to Lady Welby of December 1908: 'I define a sign as anything which is so determined by something else,

called its Object, and so determines an effect upon a person, which effect I call its Interpretant, that the latter is thereby mediately determined by the former' (in: Ogden & Richards 1923, p. 288).

Of the before mentioned sub-fields of linguistics, semantics, as the study of meaning, is closest to CA. Semantics, however, generally studies the nature of meaning on a deeper level and is not so much concerned with actual (specific) concepts. Semantics is divided into pure, applied and formal semantics. Pure semantics studies artificial (formal) languages, while applied semantics studies sentences and words in natural languages. Formal semantics is a formalized systematic approach in studying and describing the object-language (the language studied). Within semantics a number of competing theories have been developed. Conceptual Role Semantics (often abbreviated as CRS), for example, asserts that the meaning of a concept is the role of that concept in the perception, thought and decision-making-processes of the user of the concept. Possible World Semantics (PWS) assumes that meaning is related to functions from possible worlds to individuals. Situation Semantics claims that concepts and propositions refer to states of affairs.

The most important current, apart from analytic philosophy, that dealt with language is probably hermeneutics. Hermeneutics is a tradition of textual interpretation that started when Protestants had to interpret the Bible themselves (rather than uncritically following a priest). Schleiermacher founded modern hermeneutics in the early 19th century. His goal was to understand a text as well as the author(s) did. One of the core ideas of hermeneutics is the 'hermeneutic circle' (compare Davidson in the preceding subsection). The hermeneutic circle is the phenomenon that to understand part of a text it is necessary to understand the whole and *vice versa*. Dilthey enlarged the original subject of hermeneutics (the Bible) considerably when he set out to study the whole of culture. Other important adherents to hermeneutics include Heidegger and Gadamer. According to Gadamer (1960) all meaning is context-dependent. Understanding is not just a relation between object and (knowing) subject but also between 'horizons', conceptual and cultural frames of reference. As it is impossible to step outside one's horizon, understanding implies the integration of a strange horizon with one's own (compare Davidson in the preceding subsection).

Winch, a student of Wittgenstein, combined (possibly unconsciously) the later Wittgenstein and hermeneutics in a kind of 'analytic hermeneutics'. Winch himself influenced (a.o.) Habermas. In particular Wittgenstein's idea of concepts as rules influenced Winch deeply. The identification of concepts demands the recognition of the regularities of human behaviour and interaction. These regularities are the result of rule-following instead of laws. Rules themselves are laid down in concepts and meanings. 'For Winch the social is the *meaningful* and the meaningful is the *rule-governed*' (Lyas 1999, pp. 28-29). In Winch's opinion (1958; 1964), the core of social science is the determination of the nature of social phenomena, which is (also) the terrain of philosophy. Studying social phenomena, studying other cultures especially, implies studying the meaning of these phenomena within those cultures, studying the concepts constituting that culture. 'Instead of viewing concepts as

theories which explain actions, Winch asks us to treat them as constituting the terms within which people carry on their lives. (...) understanding a way of life and understanding a set of concepts are one and the same thing' (Sharrock & Anderson 1985, p. 121). Or in the words of Winch himself:

What we may learn by studying other cultures are not merely possibilities of different ways of doing things, other techniques. More importantly we may learn different possibilities of making sense of human life, different ideas about the possible importance that the carrying out of certain activities may take on for a man, trying to contemplate the sense of his life as a whole. (Winch 1964, p. 321)

Winch (1964) distinguishes a small number of basic problems or 'limiting concepts' which every society has to deal with.

I have wanted to indicate that forms of these limiting concepts will necessarily be an important feature of any human society and that conceptions of good and evil in human life will necessarily be connected with such concepts. In any attempt to understand the life of another society, therefore, an investigation of the forms taken by such concepts – their role in the life of the society – must always take a central place and provide a basis on which understanding may be built. (p. 324)

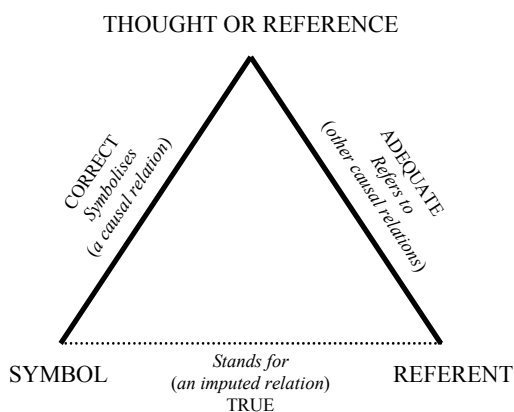
Almost a century before Winch, a completely different philosophical current dealt with concepts and meaning as well. Peirce, one of the before mentioned founders of semiotics, was also the founding father of the philosophical movement of pragmatism. The pragmatist James (*e.g.* 1907) took as his starting point the idea that it is impossible to determine the nature of philosophical and psychological terms. It is not very useful to try to define concepts such as "truth" or "consciousness", rather we should show how these concepts are actually used. This is the essence of pragmatism. Its goal is to clean up the philosophical vocabulary. Peirce himself corresponded from 1903 onwards with Lady Welby, who introduced *significs*. Welby introduced Richards and Ogden to Peirce's work, which resulted in their book *The meaning of meaning* (1923), which was most influential half a century later in CA in social and political science (see § 2.3). Ogden later translated Wittgenstein, and Welby also corresponded with Russell, which illustrates an interesting web connecting (ultimately) almost everyone mentioned in this chapter.

Significs was intended as the scientific study of acts of communication. Welby's main goal seemed to have been the improvement of communication by ending misunderstandings. The starting point for the movement of *significs* was Welby's trichotomy: sense, meaning, significance (*e.g.* Welby 1896). *Sense* is the initial, unanalysed, effect of a sign on the mind; *meaning* is the effect in the mind of the interpreter intended by the producer of the sign; and *significance* is the full effect a sign possibly would have in any mind. Based on this trichotomy and strongly related to Frege's distinction of *Sense* and *Bedeutung* (see

above), Ogden and Richards (1923) proposed a trichotomy of symbol, thought and referent (see figure 2.1). (Sowa (2000, p. 192), however, claims that Aristotle (in *on Interpretation*) was the first to make this distinction.) Thought and symbol are causally related, as are thought and referent, Ogden and Richards claimed. But, 'between the symbol and the referent there is no relevant relation other than the indirect one' (p. 11).

As mentioned above, Ogden & Richards would have considerable influence half a century later, but signifiics did not end with them. The movement of signifiics gained some strength in the Netherlands, where it gave birth to Signific Concept Analysis (SCA). Its most important Dutch followers were mathematician Brouwer, Mannoury and the methodologist de Groot. However, with a notable exception of de Groot's work in SCA, signifiics was dead by the 1960s (e.g. Schmitz 1991).

figure 2.1: *Ogden & Richard's meaning triangle*



(figure adapted from Ogden & Richards 1923, p. 11)

While Welby despised definitions, SCA is based on definition. The term "Signific Concept Analysis" was coined by Mannoury (Visser 1999), but its theoretical content was mainly the product of de Groot (e.g. de Groot & Medendorp 1986; 1988). De Groot and Medendorp specified eight rules for SCA. The first states that only nouns (or nominalisable verbs or adjectives) can be subjects of SCA; the fourth demands consultation of dictionaries and specific (for that concept) conceptual analyses already published; the fifth advises dealing with the historical or etymological roots of words; the seventh warns about metaphors; and the eighth advises consideration of the relevance of context. In explaining these rules, de Groot and Medendorp state that 'The attainment of the ultimate goal – consensus of experts of different orientations – is furthered best by designing primarily a mantle definition in which particular conceptions can be encompassed as special cases' (1988, p. 261).

Besides hermeneutics, pragmatics and signification, there have been some more or less isolated figures in the recent history of philosophy who dealt in some way with CA. Most of them had very little (or maybe even none whatsoever) influence on the main currents of CA and philosophy of language. Fries and Nelson, for example, practised a kind of CA in a Kantian tradition (e.g. Yolton 1961). Fries and Nelson believed that 'concept analysis' is more than just lexicography or specifying definitions because (1) it uncovers implicit or hidden presuppositions and meanings (which may differ from the intended meaning); and (2) it does not analyse meaning, but (an ideal) meaning is offered through analysis. Lovejoy and Foucault were more interested in the historical context of concepts (see also § 2.4.1). Lovejoy (1948) regarded himself some kind of physician of philosophy. He set out to reduce ideologies, systems, and -isms to their fundamental particles. Foucault (e.g. 1966) most strongly emphasised the historical context of concepts. Based on (a.o.) Foucault, A. Davidson (not D. Davidson dealt with above) claims that the nature of (some) philosophical problems is determined by the historical conditions of their genesis. 'We will not fully understand the concepts used in the dialectic of philosophical argumentation unless we practice a certain form of historical analysis' (Davidson 1984, p. 107).

2 / 2 / 3 / meaning, definition and reference

The preceding subsections briefly reviewed the historical development of types and variants of conceptual analysis. The focus was more on the development and currents than on the concepts, theories and techniques of CA, however. This subsection is intended to fill the gap and deals with notions such as "meaning", "definition", and "reference".

Meaning is probably central to CA. However, the concept and nature of "meaning", like the concept of "concept" itself (see § 2.1.2) is highly contested. Several competing theories of meaning exist. Meaning as truth is the theory of meaning of classical analytic philosophy. The basic idea, introduced by Frege (1884), is that the meaning of a declarative sentence can be given by specifying its truth-conditions. A serious drawback is that there are infinitely many truth-conditions: "p" is true if at least p is the case, but also if $p \wedge q$ is the case, whatever is q. Grice (1957) contended that meaning is intention. The meaning of an utterance is the intention of the utterer. According to Wittgenstein the meaning of a concept is the rule for its use. Dummett and Davidson claim that meaning is understanding. And the verification theory of meaning asserts that meaning is proof.

Next to theories about what concepts mean, there are theories about what concepts refer to. Possible candidates are extensions (e.g. Goodman 1951/66; Quine 1960); intensions (e.g. Montague 1974); a combination thereof (e.g. Carnap 1946); and common properties (e.g. Dretske 1981, Millikan 1984, Fodor 1990). The extension - intension dichotomy is related to Frege's *Sinn* and *Bedeutung* and to Ogden and Richards symbol and referent, but these distinctions are far from identical. The extension of a concept is the set of instantiations of that concept, the set of 'things' to which the concept applies. Formally, an intension is a

function that maps a possible world to the extension of the concept in that world. Intensions are often interpreted as sets of properties a 'thing' must have to belong to the extension of that concept (e.g. Sartori 1984b), hence, to be an instantiation of that concept. In this interpretation, the before mentioned second and fourth candidate for reference coincide.

According to Quine (1951), there are no intensions. Intensions are nothing but psychological entities intervening between language and reference. There is no place for intensions in a purely scientific or logical approach to meaning and semantics. Quine's position is rather problematic when non-extensional concepts are concerned, although Quine would probably not allow non-extensional abstract concepts in scientific language. That, however, would make (social) science (as we know it) impossible as the social and political sciences are packed with non-extensional concepts (e.g. Sartori 1984b; Gerstlé 1989). Concepts such as "culture", "society" or "democracy" have no extensions. Dutch culture is not a member of the extension of "culture" but of the different concept of "a culture". And: 'a culture is no mere subset of culture, but a different order of abstraction entirely' (Bohannon 1973, p. 358). Similarly, American democracy (if existing) is not a member of the extension of "democracy", but of "a democracy". The concepts "culture" and "democracy" do not refer to actual cultural groups or democratic states, but to bodies of ideas and theories. Claiming that Dutch culture and American democracy are members of the extensions of "culture" and "democracy" respectively is very much like claiming that five centimetres is a member of the extension of "length". The relationship between Dutch culture and "culture" is more or less like that between five centimetres and "length": the first is a specific value of the latter, not an instantiation. (On quantitative concepts see also Hempel 1952.)

Ideas about concepts, meaning and reference are integrated in a number of theories. Laurence and Margolis (1999) distinguish five of these theories, but more can be distinguished.

The Classical Theory of Concepts (CTC) was probably first introduced by Locke (1690). It holds that concepts are 'structured mental representations that encode a set of necessary and sufficient conditions for their application, if possible, in sensory or perceptual terms' (Laurence & Margolis 1999, p. 10). Complex concepts can be analysed into less complex concepts and finally be reduced to sensory data and logic. CTC presupposes that our 'intuitive categorization judgments will correspond precisely with simple clusters of properties' (Ramsey 1992, p. 61) and that 'we have tacit knowledge of the 'essence' of abstract concepts, that the essence is a small set of necessary and sufficient conditions, and that we can uncover this knowledge by appealing to our intuitive categorization judgments' (Ramsey 1992, p. 62).

Several objections to CTC have been put forward. First of all, there are hardly any uncontroversial definitions. 'Definitions have proven exceptionally difficult to come by, especially if they have to be couched in perceptual or sensory terms in accordance with empiricist strictures' (Laurence & Margolis 1999, p. 14). Other objections are related to the

problem of analyticity (see § 2.2.1), conceptual fuzziness, and the fact that we can have and use concepts without being able to specify their definitions.

The Neo-classical Theory of Concepts (NTC) assumes that concepts have partial definitions only. The partial definitions specify the necessary (but not sufficient) conditions for their application. 'Concepts may have a definition after all, or at least a partial definition; it's just that the definition involves tacit rules that are extremely difficult to articulate' (Laurence & Margolis 1999, p. 54).

The first real alternative to CTC was the Prototype Theory of Concepts (PTC). PTC was based on Wittgenstein's (1953) notion of family resemblances (*e.g.* Medin & Smith 1985). He developed this idea in trying to explain the meaning of the concept of 'game'. According to Wittgenstein 'der Begriff "Spiel" ist ein Begriff mit verschommenen Rändern' (§ 71). Instantiations of a family resemblance have some properties of a set of prototypical properties, but not necessarily all of them. PTC is affirmed by Millikan's (1998) conclusion that extensions of concepts are not determined by their description, but that small children develop concepts as referents pointing at unique natural objects. Moreover, PTC underwent extensive empirical testing. Rosch (1973) and Smith and Medin (1981) found that people need more time to think about the appropriateness of a concept, for classification of an object, for cases that are further away from the prototype. Rosch (1973) and Rosch and Mervis (1975) found that people are able to rank cases in order of typicality regarding the appropriateness of specific concept. Barsalou (1987), however, found that these 'typicality rankings' are significantly different between different people and change over time rather quickly (sometimes even within a single month).

PTC does not solve all the problems related to CTC. It is, moreover, not very useful for theories of CA: 'The fact that people are quicker to say that robins rather than penguins are birds may tell us something about people's representations of [bird], but nothing about the definition of the concept [bird] itself, that is, what is in fact required to satisfy that concept (...)' (Rey 1998, p. 513). (see also Ramsey 1992)

From the empirical research in PTC, the Exemplar Theory (ETC) developed. Unlike PTC that claims that concepts refer to single prototypes, ETC assumes that concepts refer to all known cases.

A number of mixed theories, Dual Theories of Concepts (DTCs), have been proposed. Some are combinations of CTC and PTC, others combine other theories (such as PTC and the Theory Theory of Concepts (TTC); see below). An example of a DTC as a combination of CTC and PTC can be found in the work of Pinker and Prince (1999), who found that prototype and classical models of concepts are complementary. They concluded this after researching English verbs. What they found was that regular verbs are classical, while irregular verbs are prototype concepts.

The Theory Theory of Concepts (TTC) assumes that 'a concept's identity is assumed by its role within a theory' (Laurence & Margolis 1999, p. 45) and that the meaning of a concept (or scientific term) is dependent on the successive theories in which it is used (*e.g.* Bartels 1994). The idea is related to Quine's (1951) 'confirmation holism' and to Popper's (1935)

and Wittgenstein's (1953) idea of the 'theory-ladenness' of concepts. Concepts are regarded as theoretical terms and changes in concepts are interpreted as and compared to changes in theories. Like all the other theories above (and the one below), TTC does not explain how people are able to have and use a concept without being able to define it. Another problem is that people with completely different convictions and worldviews still may share some (or even many) concepts, which would be impossible (or extremely unlikely at least) if concepts derive their meaning from the broader framework they are part of.

Conceptual Atomism (ATC), finally, assumes that concepts are primitive. It seems, however, rather absurd to assume that the concept of "disk drive" is innate. Moreover, if concepts are innate, many of the psychological effects described above cannot be explained.

Besides the rather theoretical or philosophical questions regarding meaning, reference and the concept of "concept", philosophers dealt with the concept and idea of "definition". The idea of "definition" itself is strongly related to CTC (see above). Definitions are explanations of the meaning of a word. Several types of definitions can be distinguished: (1) a stipulative definition is a proposal about the use of a word (a stipulative definition, therefore, cannot be wrong, but it can be unpractical); (2) a lexical definition is a report on the actual use of the word in a specific group; (3) a precisising definition is an attempt to reduce vagueness; (4) a theoretical definition is a proposal about the understanding of the meaning of a word in a specific theoretical context; (5) a persuasive definition is an effort to influence attitudes by attaching emotive contents to the meaning of a word; (6) an operational definition is a mix of a stipulative and a theoretical definition in the context of a specific scientific problem; (7) a contextual definition is a definition of a concept by its function in a specific context (it is, for example, rather difficult to define "the" otherwise than contextually; *e.g.* Whitehead & Russell 1910-3).

Philosophers disagree about what it means to define. Whitehead and Russell (1910-3) regarded definitions as 'mere typographical conventions' (p. 11). Nevertheless Whitehead and Russell did not think definitions are trivial. Definitions (1) show that the defined concept is important within a specific theoretical framework; and (2) can be used to analyse previously unclear concepts. To Carnap (1947) definitions are rational reconstructions of imprecise concepts; definitions are used to explain and clarify. Quine (1951), on the other hand, claims that definition is based on synonymy rather than explication. Etymologically, "to define" means "to delimit". 'Thus definitions serve to fix boundaries' (Suppe 2000, p. 76). Although philosophers disagree on what exactly it means to define, most of them agree that defining is notoriously difficult. Bohnert (1963), for example, writes that 'we must not assume that just because we use a word successfully we have some neat, fixed mental something that corresponds to it and that we merely need to sit down and analyze to arrive at a full definition' (p. 430).

Different philosophers specify different criteria for definitions, sometimes depending on the context. Ramsey (1992), for example, contends that definitions in CA should be relatively

simple and must not admit intuitive counterexamples. Generally it is required for definitions that the *definiendum* (what has to be defined) has (exactly) the same meaning as the *definiens* (the equivalent of the definiendum supplied in the definition; the text of the definition). Carnap (1947) disagrees: 'some sort of correspondence between the two concepts, in such a way that the latter can be used instead of the former' (p. 8) is sufficient. What most philosophers agree about is that definitions should be non-informative. That is, definitions may not give new information (*e.g.* Whitehead & Russell 1910-3). Definitions must satisfy two criteria: (1) eliminability and (2) non-creativity (Leśniewski 1931; Suppes 1957). These criteria demand that new symbols or meanings introduced by definitions do not result in new theories and can be eliminated without any theoretical consequences. (Formal definitions of eliminability and non-creativity are specified in box 2.1 at the end of this subsection.)

An additional criterion for (useful) definitions can be derived from Quine's (1968) 'ontological relativity':

What makes ontological questions meaningless when taken absolutely is not universality, but circularity. A question of the form 'What is an F?' can be answered only by recourse to a further term: 'An F is a G'. The answer makes only relative sense: sense relative to an uncritical acceptance of 'G'. (p. 204)

In other words, and applied to definitions, a definition is meaningless if its definiens uses terms that are as vague or ambiguous as the definiendum.

Sometimes definitional analysis is confused with logical implication. Carnap (1946; 1947; see also Linsky 1949) used the concept of "intensional isomorphy" (or "intensional isomorphism") to explain the difference. He claimed that the statement $A =_{\text{def.}} B$ (definitional identity of predicates) is not intensionally isomorphic to $\forall x[Ax \leftrightarrow Bx]$. Statements are intensionally isomorphic iff the relations between and the intensions of the concepts in both statements are the same. This is not the case here due to the fact that the syntactic structure of both statements differs and there is, for example, no x in the first statement. The relationship between the definitional analysis " $A =_{\text{def.}} B$ " and the logical biconditional " $\forall x[Ax \leftrightarrow Bx]$ " is not a relationship of identity; it is a conditional of the following form:

$$\mathbf{T2.1} \quad (A =_{\text{def.}} B) \rightarrow \forall x [Ax \leftrightarrow Bx] .$$

Note that the relationship is a conditional. Why it is not a *biconditional*, is easily illustrated with an example. Let A mean "equilateral triangle" and B mean "equiangular triangle". We now have a situation wherein $\forall x[Ax \leftrightarrow Bx]$ is true (in Euclidean space) while $A =_{\text{def.}} B$ is not. The relationship, however, *is* a biconditional if *necessarily* (symbolised by \square) $\forall x[Ax \leftrightarrow Bx]$:

T2.2 $(A =_{\text{def.}} B) \leftrightarrow \forall x \Box [Ax \leftrightarrow Bx]$,

provided that necessity is interpreted as "in all possible worlds". As there are non-Euclidean spaces conceivable in which an equiangular triangle is not equilateral (or the other way around) both $A =_{\text{def.}} B$ and $\forall x \Box [Ax \leftrightarrow Bx]$ are false.

box 2.1: *formal definitions of eliminability and non-creativity*

There is a theory **T** and a definition **D** containing a new symbol ("new" here meaning "not yet in **T**"). Then:

definition **D** satisfies the principle of eliminability iff:

$$\forall p [(\mathbf{T} \vdash p \wedge \text{consym}(\mathbf{D}, p) \rightarrow \exists q [\mathbf{T} \vdash q \wedge \neg \text{consym}(\mathbf{D}, q) \wedge (\mathbf{T} \cup \mathbf{D}) \vdash (p \leftrightarrow q)]] ,$$

in which p and q are propositions and "*consym*(**D**,p)" means "p contains the new symbol used in **D**". And similarly:

definition **D** satisfies the principle of non-creativity iff:

$$\forall p [(\neg \text{consym}(\mathbf{D}, p) \wedge \mathbf{T} \vdash (\mathbf{D} \rightarrow p)) \rightarrow \mathbf{T} \vdash p] .$$

2 / 2 / 4 / summary and conclusions

Conceptual analysis (CA) in philosophy is over two millennia old. Nevertheless, its main theoretical development, its blossoming and its going out of fashion all took place in the 20th century. Starting with Moore, analytic philosophers claimed that philosophical (and many scientific) problems are the consequences of how we use language. Philosophy, therefore, should analyse language primarily. The initial ('classical') approaches to concepts and CA in analytic philosophy were, in following decades, refuted by psychological research (§ 2.2.3) and philosophical analysis itself (§ 2.2.1). Philosophers and linguists became increasingly aware of the complexities of concepts and conceptual analysis. During the 20th century, analytic philosophy was not the only field interested in concepts and CA. Several other disciplines and philosophical currents dealt with concepts and meaning, including semiotics and semantics, heuristics, and signification (§ 2.2.2).

One of the most basic ideas that seems to be present in all (or most, at least) of the theories and philosophies described above – although the terms or labels used vary among philosophers and theories – is that concepts **C** are associated to triplets of term **T**, meaning **M** and referent **R**: $\langle \mathbf{T}, \mathbf{M}, \mathbf{R} \rangle$. One could, however, argue that the referent itself is not part of the concept, and that a concept *is* an ordered couple of term **T** and meaning **M** and *has* a referent **R**, which could result in a first definition of concepts:

D2.1* $\mathcal{C} =_{\text{def.}} \langle \mathcal{T}, \mathcal{M} \rangle$.

This definition will be the starting point for an attempt to construct a general model of concepts based on the literature reviewed in this chapter and intended to provide a theoretical foundation for a methodology of conceptual analysis in social science. Section 2.7 presents this model and the associated methodology.

Of the two elements of D2.1*, only meaning \mathcal{M} seems to be problematic. Especially subsection 2.2.3 dealt with different theories about meaning and how to determine it. As meaning, in many theories, is the intermediate between term \mathcal{T} and referent \mathcal{R} , theories about reference codetermine theories of meaning and vice versa. A number of theories on concepts, meaning and reference were described in subsection 2.2.3. The most important were the classical theory (CTC) and the prototype theory (PTC). The first assumes that concepts can be neatly defined by a (relatively small) set of necessary and sufficient conditions. In practice this, however, has proven to be very difficult. The prototype theory, on the other hand, claims that only partial definitions are possible and that these partial definitions refer to sets of necessary conditions, of which only a subset must be fulfilled for the correct application of the concept. Both CTC and PTC and the other concept theories mentioned, however, come with a number of other theoretical problems yet unsolved. Nevertheless, whatever concept theory chosen, D2.1* still holds. It is only in determining the nature of \mathcal{M} that these theories matter (see § 2.7.1).

A number of philosophers, including, for example, Wittgenstein, Winch and Gadamer, pointed at the importance of the (linguistic) context of concepts. According to Wittgenstein the meaning of a concept is the rule for its use within a language-game. Gadamer asserted that the meaning of concepts as parts of text is determined by the linguistic context, the conceptual framework, of the author. Hence, besides to referents \mathcal{R} , concepts are also somehow related to linguistic context \mathcal{O} (language-game, conceptual framework, etc.).

Slowly, the picture becomes more complicated. Most of the theories dealt with in this subsection, however, have something in common: they are based on a very abstract concept of "concept" and deal only with relatively simple concepts, such as natural kinds. Nevertheless, even these seem to defy analysis or definition.

Arguably, the world does not supply determinate answers: all kinds in the world may have vague boundaries, any precise delimitation of which may depend on human decision. But this does not imply that all applications of concepts are up to human decision, much less that there are no defining essences of the phenomena they pick out. (Rey 1998, p. 508)

The following sections deal with gradually increasingly more complex concepts. Section 2.3 and 2.4 focus (a.o.) on scientific and political concepts. Section 2.5 and 2.6 deal with concepts in context.

2 / 3 / applied conceptual analysis

Concept theories and conceptual analysis (CA) in philosophy and psychology almost exclusively deal with relatively simple ordinary language concepts. The concepts that most need analysis in most scientific fields, however, are very complex and in many other respects very different from ordinary language concepts. Scientific terminology is a kind of *semi-formal language* to which the theories of ordinary language do not necessarily apply. Wittgenstein's (1953) notion of meaning as use, for example, is discarded by Sartori (1984b) on the grounds that the meaning of scientific terms and concepts is not determined by their actual use, but by what the concept was intended to mean at its introduction. Similarly, Sartori (1984a) puts aside Quine's (1951) suggestion that the unit of empirical significance is a theory (or even science) as a whole, as 'outrageously unhelpful advice' (p. 9).

Since the 1970s, forms and variants of CA have been applied in a number of fields. The application in different fields can be nicely illustrated by classifying all articles published in international scientific journals in the period 1980 - 2003 (and registered in the Online Contents database; see www.oclcpcica.org), having in their title one of the following phrases: "conceptual analysis", "concept analysis" or "analysis of the concept", by scientific field. (An alternative, more theoretical oriented, and not quantified, classification can be found in Pathak 2000; see also §2.1.2.) The results of this classification are represented in table 2.1:

table 2.1: *percentage of articles on / in conceptual analysis by scientific field*

philosophy and (philosophical) linguistics	5.5 %
nursing and medicine	37.1 %
↳ <i>nursing</i>	35.0 %
↳ <i>medicine</i>	2.1 %
social, political and behavioural sciences	24.8 %
↳ <i>political science</i>	7.1 %
↳ <i>social sciences</i>	7.9 %
↳ <i>psychology</i>	9.8 %
computer and information science	18.3 %
↳ <i>Formal Concept Analysis (FCA)</i>	11.0 %
↳ <i>other / unspecified</i>	7.3 %
education	7.7 %
natural sciences	3.5 %
arts	3.2 %
<hr/> total	<hr/> 100 %

The table shows that the bulk of articles on or in CA came from a relatively small number of fields. Nursing is by far the most active field in CA. When only articles applying CA to

specific concepts are counted, the share of nursing even rises to 47%. Interestingly, CA in nursing and education share a common background in the work of Wilson (1963). CA in nursing will be dealt with in subsection 2.3.2 (the relatively small field of CA in education is ignored here; see Frein 1998 for an overview). In the 1970s concern about the rather ambiguous terms and concepts in the social and political sciences grew. This resulted in (a.o.) a Unesco report (Riggs 1981) and a number of related research projects on terminology, international classification, knowledge organisation, and concepts in the social and political sciences themselves. Subsection 2.3.1 gives a brief overview of CA in these fields. The third 'major player' in CA is computer and information science. Most of the articles on CA published in this field are about Formal Concept Analysis (FCA), a mathematical technique used to map *conceptual structures*. FCA and most of the remainder of CA in computer and information science is related to fields such as knowledge representation and artificial intelligence. The goal of these types of CA, if that is what they are, usually is the summary and representation of a set of concepts and related knowledge in a specific field in a rigorous and formal structure. As these techniques do not focus on single concepts but on conceptual structures, they are dealt with in subsection 2.6.2. However, some publications from these and other fields do also deal with single concepts and present formal methods of CA. Subsection 2.3.3 deals with the most important formal tools suggested to be applicable in CA.

CA in other fields is relatively rare and will be mostly ignored here. An example of CA in the arts is Galle's (1999) analysis of 'design as intentional action'. CA in the natural sciences is often related to taxonomy or classification of natural objects (such as (the boundary between) hills and mountains; e.g. Smith & Mark 1999; Varzi 2001).

2 / 3 / 1 / terminology and CA in social and political science

CA and terminology research in social and political science arose in the 1970s as a reaction to the increasing conceptual confusion caused by the continuous introduction of new terms and new meanings for existing terms. As Dahlberg (1978) puts it: 'the almost exclusive reliance by social scientists on the use of terms derived from ordinary language usages results in an extreme proliferation of the meanings in which the most commonly used words are employed, thus producing a polysemantic jumble which appears to defy all normalizing efforts' (p. 142). Hence, 'concept reconstruction is a highly needed therapy for the current state of chaos of most social sciences' (Sartori 1984b, p. 50).

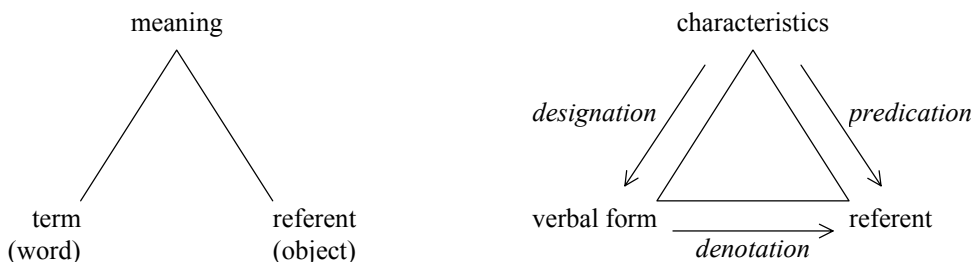
In 1970 Riggs and Sartori founded the Committee on Conceptual and Terminological Analysis (COCTA), which is a part of both the International Political Science Association (IPSA) and the International Sociological Association (ISA). Discussions within COCTA resulted (a.o.) in the before mentioned Unesco report: *Interconcept report* (Riggs 1981) and in *Social science concepts: a systematic analysis*, edited by Sartori (1984). Besides Cocta and Interconcept / Unesco, the International Standards Organisation, Technical Committee

No. 37 (ISO/TC37) had been working since the end of the 1960s on a number of standards in terminology research. These are ISO 860, a proposed methodology for dealing with differences and development of concepts and terms, published first in 1968; ISO 704 on the establishment of conceptual systems, published first in 1987; ISO 1087, which applies ISO 704 to its own field, hence, presents an official vocabulary for terminology research, published first in 1990; and ISO 10241 on international terminological standards, published first in 1992. (For an overview of the history and contents of these standards see Effenberger 1995.)

The *Interconcept* project was started by Unesco in 1977 as an answer to a perceived 'fundamental need' for the social sciences: a 'term bank'. *Interconcept* (Riggs 1981) specifies guidelines for creating glossaries rather than for CA of individual terms. *Interconcept* glossaries have to satisfy a number of criteria. Its introduction, for example and not very surprisingly, should state the logic and method used, if different from the before mentioned ISO standards. The main text of an *Interconcept* glossary consists of 'records'. A record provides information about a concept, mainly about its notation and definition.


Terminology research and CA in social and political science are heavily influenced by Ogden and Richard's *the meaning of meaning* (1923) (see § 2.2.2). Ogden and Richard's meaning triangle of symbol, thought and referent (figure 2.1) was transformed by Sartori (1984b, p. 23) into figure 2.2 (left), which Sartori regarded the most usable starting point for CA.

figure 2.2: Sartori's (left) and Dahlberg's (right) meaning triangle



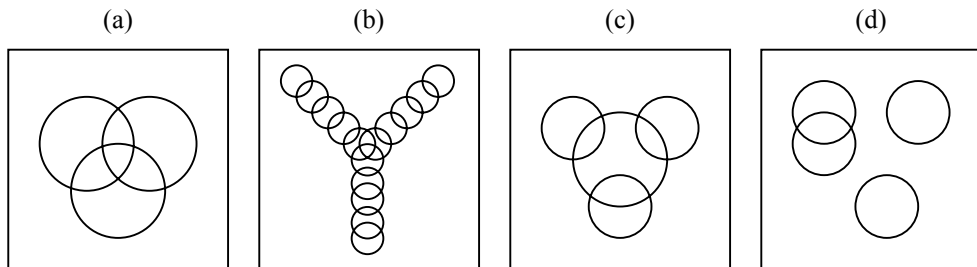
(figures adapted from Sartori 1984b, p. 23 and Dahlberg 1978, p. 144)

This figure suggested to Sartori his two basic questions: (1) how do meanings relate to words and (2) how do meanings relate to referents. To Sartori, meaning, intension or connotation of a term or concept 'consists of all the characteristics or properties of that term' and 'referents are the real-world counterparts (if existent) of the world in our head' (p. 24). Like Ogden and Richards, Sartori did not recognise a direct link between term and referent. However, Sartori's triangle was further developed by (a.o.) Dahlberg (1978), who did

include a direct link between term (verbal form) and referent (see figure 2.2 – right), and was formalised by Kuznetsov (1999). 

Sartori (1984b) distinguished a number of problems in CA in social and political science. The most important are (1) vagueness, fuzziness and ambiguity; (2) homonyms and synonyms; and (3) opacity, the phenomenon that some social science terms are non-extensional (see also Gerstlé 1989 and § 2.2.3). Sartori illustrates some of these problems in a number of Venn-Euler diagrams, here presented in figure 2.3:

figure 2.3: *definitions as intensional Venn-Euler diagrams*



(figure adapted from Sartori 1984b, p. 47)

In these figures, the circles represent sets of characteristics of (all) known cases to which the term or concept is applied. In cases a and b, there is a common centre, although in b not all cases overlap with this common centre. It is not very difficult to come up with a definition in case a, but this becomes more difficult in case b. Cases c and d are far more complicated. There is no common centre whatsoever in cases c and d, but at least in c there is some overlap, enabling some kind of prototype-definition. Definition in case d is completely impossible (except when you allow disjunctive definitions). In case d it probably is better to speak of different concepts with the same term or label. Hence d is a case of homonymy.

To deal with the difficulties regarding CA in social and political science, Sartori (1984b) suggested a number of rules that became more or less paradigmatic:

Rule 1: Of any empirical concept always, and separately check (1) whether it is *ambiguous*, that is, how the meaning relates to the term; and (2) whether it is *vague*, that is, how the meaning relates to the referent. (p. 28/63)

Rule 2a: Always check (1) whether the key terms (the designator of the concept and the entailed terms) are defined; (2) whether the meaning declared by their definition is unambiguous; and (3) whether the declared meaning remains, throughout the argument, unchanged (i.e., consistent). (p. 36/63)

- Rule **2b**: Always check whether the key terms are used univocally and consistently in the declared meaning. (p. 36/63)
- Rule **3a**: Awaiting contrary proof, no word should be used as a synonym for another word. (p. 39/63)
- Rule **3b**: With respect to stipulating synonymies, the burden of proof is reversed: What requires demonstration is that by attributing different meanings to different words we create a distinction of no consequence. (p. 39/64)
- Rule **4**: In reconstructing a concept, first collect a representative set of definitions; second, extract their characteristics; and third, construct matrixes that organize such characteristics meaningfully. (p. 41/64)
- Rule **5**: With respect to the extension of a concept, always assess (1) its degree of boundlessness, and (2) its degree of denotative discrimination vis-à-vis its membership. (p. 43/64)
- Rule **6**: The boundlessness of a concept is remedied by increasing the number of its properties; and its discriminating adequacy is improved as additional properties are entered. (p. 43/64)
- Rule **7**: The connotation and the denotation of a concept are inversely related. (44/64)
- Rule **8**: In selecting the term that designates the concept, always relate to and control with the semantic field (to which the term belongs) – that is, the set of associated, neighboring words. (p. 52/64)
- Rule **9**: If the term that designates the concept unsettles the semantic field (to which the term belongs), then justify your selection by showing that (1) no field meaning is lost, and that (2) ambiguity is not increased by being transferred into the rest of the field set. (p. 53/64)
- Rule **10**: Make sure that the definiens of a concept is adequate and parsimonious: adequate in that it contains enough characteristics to identify the referents and their boundaries; parsimonious in that no accompanying property is included among the necessary, defining properties. (p. 56/64)

2 / 3 / 2 / CA in nursing

It may come as a surprise that nursing is most prolific in CA. This may, however, be related to the importance of (a.o. diagnostic) concepts and communication of these concepts in nursing. In the transference of information on the condition of patients, it is essential that those taking part in communication have the same, or at least similar (definitions of) concepts.

CA in nursing is firmly based on Wilson (1963). Wilson was a philosopher of education, who was strongly influenced by analytic philosophy, especially by ordinary language philosophy. Morse (1995) distinguishes four CA methodologies in nursing and adds a fifth based on Bolton (1977). Hers is the only explicitly non-Wilsonian method. The paradigmatic CA methodologies in nursing, however, are Walker and Avant's (1983) and Rodgers's (1993) evolutionary adaptation thereof. Walker and Avant summarise Wilson's eleven-step method of CA in eight steps:

1. Select a concept.
2. Determine the aims or purposes of analysis.
3. Identify all uses of the concept that you can discover.
4. Determine the defining attributes.
5. Construct a model case.
6. Construct borderline, related, contrary, invented, and illegitimate cases.
7. Identify antecedents and consequences.
8. Define empirical referents. (p. 39)

The goal of Walker-and-Avant-style CA is a prototypical model case. Rodgers (1993) suggested an evolutionary approach of concept development that also deals to some extent with context. Its goal, however, is the same: a prototypical model case. Morse (1995) argues that these Wilsonian methods are based on too simple concept theories. CAs of nursing concepts based on either Walker and Avant (1983) or on Rodgers (1993) pay insufficient attention to conceptual complexity and context, which results in obvious results and little practical value. Morse suggests a three-step method of concept development: (1) identification of attributes (based on an exemplar); (2) verification of attributes (with the help of Bolton's (1977) 'rules of relation'); and (3) identification of instantiations of the concept.

Although a number of nursing scientists criticised the Wilsonian approaches (e.g. Wuest 1994; Morse 1995; Hupcey *et al.* 1996; Morse *et al.* 1996), a quick glance over the methods used in recent CA applications in nursing, still shows that Walker and Avant (1983) and, to a lesser extent, Rodgers (1993) dominate the field.

2 / 3 / 3 / formal methods of / in CA

Formal methods of CA (in a very broad sense) have been developed in early 20th century philosophy and are still being developed in sub-fields of Artificial Intelligence and computer science, such as knowledge engineering and conceptual modelling. The most important tools are variants or adaptations of symbolic logic, especially *first-order logic* (FOL). Symbolic logic and set-theory (which is basically FOL plus the \in -symbol) are among the oldest tools of conceptual analysis. Mathematical concepts were analysed logically by Frege (1884) and Whitehead and Russell (1910-3). More recently, *formal ontology* (e.g. Smith & Küne (eds.) 1982; Smith & Mulligan 1983), which was inspired by Husserl (1900-1), and analytical metaphysics (e.g. Bunge 1977) have applied symbolic logic (FOL mainly) in conceptual elucidation.

Conceptual Graphs (CG) were introduced by Sowa (1984) as an alternative system of logic based on the existential graphs of Peirce (1909/33). (For a relatively short introduction, see Sowa 1992; on the relationship between CG and FOL see e.g. Wermelinger 1995; Amati & Ounis 2000.) CG is intended to elucidate conceptual structures: sets of interrelated

concepts. The purpose of CG 'is to express meaning in a form that is logically precise, humanly readable, and computationally tractable' (Sowa 1992, p. 3). However, CG is also applicable in definitional analysis. A third formalisation technique in CA is *description logic* (DL) (e.g. Brachman & Levesque 1984; Donini *et al.* 1991; Bettini 1997).

To illustrate (the differences between) CG, FOL and DL, consider the following example: a garden can be defined (incompletely!) as a cultivated parcel of land. This can be formalised in FOL, CG and DL as:

$$\mathbf{D2.2}_{\text{FOL}} \quad \forall x [\text{garden}(x) \leftrightarrow (\text{parcel-of-land}(x) \wedge \text{cultivated}(x))]$$

$$\mathbf{D2.2}_{\text{CG}} \quad (\lambda x) [\text{GARDEN: } x] = [\text{CULTIVATED}] \leftarrow (\text{STAT}) \leftarrow [\text{PARCEL-OF-LAND: } x]$$

$$\mathbf{D2.2}_{\text{DL}} \quad \text{garden} := \text{parcel-of-land} \sqcap \exists \text{state.cultivated}$$

The main difference between CG and DL, on the one hand, and FOL, on the other, is that in FOL every predicate has to refer directly to the logical object x . In other words: the FOL formalisation can be read as: 'every x is a garden if and only if x is a parcel of land *and* x is cultivated'. The CG and DL formalisations makes it possible to describe states (STAT / state) of predicated objects and can be read as ' x is of the type (or x is a) 'garden' if x is a parcel of land that is in the state of cultivation'. In a way CG and DL allow predicates to be further predicated, which is impossible in FOL. Contrary to FOL, CG and DL also allow quantitative qualification of predicates and other numeric variables. However, FOL can be expanded into alternative systems of logic (higher-order logics for example) which do allow these same possibilities while staying more rigorous and closer to set-theory than CG or DL.

In CA, however, all formalisations have their limits. As Quine (1968) pointed out (and quoted before in § 2.2.3): 'A question of the form 'What is an F?' can be answered only by recourse to a further term: 'An F is a G'. The answer makes only relative sense: sense relative to an uncritical acceptance of 'G" (p. 204). Hence, the applicability of FOL as a CA tool is dependent on the reducibility of the concepts, which are to be analysed, to more basic concepts, which are already defined or are even part of the structure of FOL itself. As an analytical tool, therefore, logic and set-theory are extremely useful in the analysis of concepts, which are reducible to sets, such as part-whole relations in formal ontology (e.g. Smith 1996) or demographic events such as population changes (Brons 2001). However, if such a reduction is not possible it is less likely to be as powerful a tool as one might wish. This too is illustrated by the examples above: the formalisations seem to add little clarification to the ordinary language description provided first.

The problem is that logics are rather 'poor' meta-languages (languages used to describe concepts in the object-language), while Tarski (1935) proved that to analyse a concept satisfactorily (in his case: 'truth') the meta-language must be substantially richer in expressive power than the object-language. This, however, implies that a full conceptual

analysis of most social scientific concepts is virtually impossible, since there is no expressively 'richer' language available than the ordinary language these concepts are from, while, on the other hand, ordinary language lacks the rigor needed for sharp description and definition.

Nevertheless, the application of FOL in CA may induce surprising results. Conceptual analyses are theoretical statements and when formulated in ordinary language, it is often difficult to grasp all the implications of such a statement. Recent research in the logical formalisation of social scientific theories has affirmed this point. For example, Bruggeman (1996) and Péli (1997) found that Hannan and Freeman's (1977; 1989) theory of organizational ecology included several logical fallacies, while, on the other hand, Kamps (1999) discovered that the premises of a specific theory presented in Zetterberg (1965) have more implications than foreseen in the original (ordinary-language) theory. Generally, 'logical formalization helps to make theories consistent, their arguments conclusive, their presentation parsimonious, their definitions clear and distinctive, and their conceptual framework transparent' (Péli, Pólos & Hannan 2000, p. 195).

2 / 3 / 4 / summary and conclusions

CA has been applied in a number of scientific fields; especially in nursing, social and political science and computer and information science. Concepts in social and political science and in nursing are rarely the simple concepts assumed by conceptual analysis (CA) in philosophy. Rather, these are complex scientific terms referring mostly to social phenomena instead of concrete objects. Nevertheless, CA in social and political science and nursing is attempted by application of a relatively small set of rules. Most of the theories of applied CA focus strongly on synonyms, homonyms and other concepts related to the analysandum. A concept \mathcal{C} is regarded to be an element of a set \mathcal{S} of related concepts (such as the before mentioned synonyms and homonyms) that should be clearly distinguished from \mathcal{C} and from each other. \mathcal{S} must be distinguished from the linguistic context or conceptual framework \mathcal{O} . The first refers to the set of synonyms, homonyms and other similar concepts, the second to the language-game, or conceptual framework the concept \mathcal{C} is part of.

In several fields it has been attempted to use formal tools in CA. While this may be very useful in order to get more rigorous, more transparent and less ambiguous results, it comes with some problems of its own. Different styles of formalisation may result in different analyses, and moreover, formalisation is most helpful in analyses of concepts that can be (partly) reduced to logical or set-theoretical concepts. Hence, though helpful, formal logic is no wonder drug.

2 / 4 / concepts, ideas and fashions

The previous sections dealt mainly with rather abstract concepts (§ 2.2) and theoretical terms and concepts (§ 2.3). However, as was explained in subsection 2.1.2, some scientific fields deal with concepts as 'social factors' or 'theories'. The notion of "concepts as theories" may seem similar to "theoretical concept", but there is an important difference: the latter regards concepts as parts of theories, while the first sees concepts as theories themselves.

There are two scientific fields dealing explicitly with concepts as 'social factors' or 'theories'. These are conceptual history, especially *Begriffsgeschichte* (§ 2.4.1), and management fashion research (MFR) (§ 2.4.2). The historical approach to CA is predominantly German. *Begriffsgeschichte*, (translated alternatively as "history of concepts", "conceptual history", and "historical semantics") is a current in the history of ideas and/or intellectual history, which studies the products of (the) human mind(s), especially those related to politics. Management fashion research (MFR) is a research field with rather little reference to concepts, but in a sense studying concepts nevertheless. The object of study of MFR are 'fads and fashions' in management theory.

Begriffsgeschichte and MFR share their focus on the temporal and social contexts of concepts. Concepts are theoretical entities specific to specific social groups and specific times. Hence, concepts change and different groups use different concepts. Concepts, including *key words*, have a social life of their own (Williams 1976). Often, conceptual differences reflect differences in worldview (or theoretical affiliation) between groups (such as scientific fields or communities). Therefore, many concepts are necessarily ambiguous (see also § 2.1.2). Gallie described more or less the same phenomenon in his 'Essentially contested concepts' (1956). *Essentially Contested Concepts* (ECCs) (such as "democracy" or "work of art") belong (mainly) to fields such as aesthetics, political and social philosophy and the philosophy of religion. ECCs are complex concepts in that they are composed of several parts or features. Competing versions of the ECC refer differently to the importance and contributions of these composing parts or features; hence, ECCs are variously describable. Generally, ECCs are derived from some original historical exemplar. The contested nature of these concepts is essential to the debates they are used in. The parties recognise the contestation, but all claim their interpretation is the only right one. A definition of an ECC is necessarily normative (and political) as it captures the interpretation of a single group only.

2 / 4 / 1 / history of concepts and ideas

Intellectual history and history of ideas (HoI) study patterns of thought, concepts, categories, classifications, etc. in earlier ages. Although there is a strong emphasis on the history of political ideas in these fields, its scope has been wider. The difference between

intellectual history and HoI is that the first focuses on the ideas in (of) a period and the latter on the history of an idea through periods. HoI is practised more in continental Europe, intellectual history more in English-speaking countries. Sub-fields of intellectual history and/or HoI (or fields related thereto) include German *Begriffsgeschichte* and French history of *mentalités*. (*Mentalités* are the collective symbols, concepts and representations of a society or part thereof.) HoI as a current in the field of history has to be distinguished from specific histories of ideas of / in scientific fields, such as the histories of geographical or economic thought, although the latter could be regarded as special cases of the former. In general HoI studies far more specific ideas than whole scientific fields.

The most important theoretical contributions to HoI were those of Skinner, Pocock and Foucault. Skinner (1969, 1978) criticized, in what became known as the 'Cambridge revision', the 'contextualism' and 'textualism' (his terms) in historical analysis. The first, contextualism, explains concepts and ideas referring to the socio-economic conditions at their genesis; the second, textualism, presumes that concepts can be explained from texts alone and that historical texts all answer questions that have stayed more or less the same during history. According to Skinner, both are wrong. Contextualism is wrong because the meaning of a concept or the intention of an idea should be analyzed independently from its genesis (and one should study meaning before genesis). Textualism, on the other hand, is wrong because it tries to derive more from a text than is in it. There are no eternal, constant, unchanging questions. Each time has its own specific problems and questions. Hence, Skinner rejects the idea that we can 'learn from history'.

Pocock (1960, 1975) was strongly influenced by the philosophy of language (§ 2.2). In classical (early) philosophy of language, language and terminology were mostly regarded as more or less (politically) neutral instruments (the rare exceptions include Marx & Engels 1846/1932). Pocock disagreed with this. Language determines the margins of (political) thought. Language determines what can be thought (see also § 2.1.1). Hence intellectual historians should study language (use) in periods before studying the ideas of that period. Studying the nature of political thought in a period is advanced more by researching the meaning of and relations between concepts than by trying to understand the intentions of authors (which is, moreover, impossible without understanding the language of the period first).

Like Pocock, Foucault (1966, 1969) regards language, or 'discourse' as he calls it, as pivotal. A core concept of Foucault's (1966) thought is "*épistème*". *Épistèmes* are relatively constant (over longer periods) structures in the discourse. *Épistèmes* structure reality, determine how we experience reality, how we classify objects in (parts of) reality, and what things in (parts of) reality we perceive. Language is the instrument an *épistème* uses to enforce this structuring of reality. Defining characteristics of *Épistèmes* and discourses are what they exclude, for example, as taboo, madness and/or untruth, rather than what they include. Hence, to study an *épistème* one must start at the excluded. This focus on exclusion points at the fact that language, discourse and *épistème* are not passive aspects of socio-historical reality, but are expressions of power.

Conceptual history or historical semantics originated in the 19th century but became a systematic field within history only fairly recently (den Boer 2001a). The first who mentioned – as far as now known – the idea that the meaning of concepts changes was Thucydides in his *History of the Peloponnesian war* (5th century BC). Far more recently, Lovejoy (e.g. 1948) described the history of some key concepts, which he analyzed and defined rigorously (see also 2.2.2). Lovejoy probably coined the term "history of ideas". An important predecessor of conceptual history as a field within history is a similar sub-field within philosophy. Philosophical conceptual history is mainly intended to improve and/or clarify the terminology or linguistic toolkit of philosophy. The approach is typically German and had very little impact on the field of history. Its most important product is the *Historisches Wörterbuch der Philosophie* (Ritter et al. (eds.) 1971ff). Even before the introduction of *Begriffsgeschichte* in the early 1970s, German historians dealt with conceptual history. Niederman (1941), for example, published a still widely referred to history of the concept of "culture". However, only after Koselleck (e.g. 1972; 1978; 1979) founded the new field, conceptual history really took off.

Begriffsgeschichte is a mix of HoI and social history. It had considerably more impact than the conceptual history in philosophy. Yet this influence was still mostly limited to German-speaking countries and other countries that are – to some extent – in the German sphere of influence, such as the Netherlands (e.g. Freeden 1997; den Boer 1998). With the relatively recent publication of an English-language introduction to *Begriffsgeschichte* (Hampsher-Monk, Tilmans & van Vree (eds.) 1998), this, however, may change in the near future. The most important work in *Begriffsgeschichte*, without a doubt, is the eight volume *Geschichtliche Grundbegriffe: Historisches Lexikon zur politisch-sozialer Sprache in Deutschland* (Brunner, Conze & Koselleck (eds.) 1972-98), which was finished recently and which proved to be a very useful source book for chapter 3. The starting point of the *Geschichtliche Grundbegriffe* is the idea of the *Sattelzeit* (e.g. Koselleck 1979; 1987). The *Sattelzeit* is the period of social transformations caused by the industrial revolution and political change (see also § 3.2). The German *Sattelzeit* was from 1750 to 1850; in France it started earlier, in 1680. The period, and its associated change may – more or less – coincide with the transfer from Foucault's (1966) classical to postclassical or modern *épistème*. Den Boer (2001a), however, is very critical about this temporal delimitation. In his opinion, the temporal boundaries are based on rather vague arguments. Moreover, the idea proved to be self-confirming and leading to circular reasoning.

Begriffsgeschichte has not been applied exclusively to German conceptual history. The *Handbuch politisch-sozialer Grundbegriffe in Frankreich 1680-1920* (Reichardt & Schmitt (eds.) 1985ff) deals with similar concepts in France, as the title suggests, but in a wider period. Recently a Dutch project in *Begriffsgeschichte* started, resulting in a number of books, including one on the history of the concept of "*beschaving*" (civilisation) (den Boer (ed.) 2001).

Although *Begriffsgeschichte* is now the dominant form, conceptual history has been applied more widely, regarding scope and period. Klaes (2001), for example, gives some examples

of conceptual history within economics and reviews the possible contribution of *Begriffsgeschichte* hereto.

Disregarding its types and variants, there are some common concepts and problems in conceptual history. An important distinction is that between 'semasiology' and 'onomasiology'. Semasiology is the study of the changing meaning of a specific concept or term. Onomasiology is the study of the different words (terms, labels) used throughout history with similar or overlapping meanings. A potential danger to all kinds of conceptual history is the 'etymological phalacy' (Lyons 1981): the assumption that the 'original', oldest known, meaning of a word is, necessarily and because of fact, its correct meaning. The fact of the matter is that 'most words in the vocabulary of any language cannot be traced back to their origin. (...) All the etymologists can tell us, depending upon evidence, is that such and such is the form or meaning of a particular word's earliest known or hypothetical ancestor' (Lyons 1981, p. 55).

2 / 4 / 2 / management fashions

Although the similarities between conceptual history and management fashion research (MFR) may not seem to be obvious, they are there nevertheless. Both fields study a type of concepts that function as flags to their users, concepts that are strongly theoretical and that are essentially ambiguous and contested. Both fields focus on the temporal and social context of concepts: conceptual history by studying the social causes and effects of conceptual change, MFR by adopting a *fashion approach*.

Management fashions, or sometimes contemptuously called management *fads*, are concepts designating trends in management. Abrahamson (1996) defines a management fashion as 'a relatively transitory collective belief, disseminated by management fashion setters, that a management technique leads rational management progress' (p. 257). Abrahamson (1991; 1996) set the stage for a new field of research in which concepts have been studied with very little influence from or contact with the fields dealt with in the previous sections. This might be (at least partly) due to the fact that the term preferred is "management fashions" and not "management concepts" (although some exceptions to this rule exist) and consequently that the perspective adopted in these studies is that of fashion instead of language.

The fashion perspective of management fashion research (MFR) is reflected in the focus on the processes of creation and dissemination of management fashions. Abrahamson (1996) dealt with the 'management fashion setting process'. Management fashion setters are, for example, consultants, management journals and management gurus. However, 'most management innovations may be created by managers' (Abrahamson, 1996, p. 266). Based on studies in the publishing industry, he distinguishes four stages in the management fashion setting process: (1) creation, (2) selection, (3) processing, and (4) dissemination. In

the first stage, new practices, techniques and ideas are developed (or old ones are revived). Abrahamson, however, pointed out that 'new' fashions are not necessarily actually new: 'fashion creation may involve either inventing management techniques that only appear to be improvements or rediscovering / reinventing old management techniques that were invented previously and forgotten' (265-266). In the second stage, management fashion setters select from this supply a small number of techniques which they adapt in the third stage to market demand. Finally, in the fourth stage, fashion setters attempt to disseminate the new fashion.

Although managers take part in the management fashion setting process, their prime role is as users and applicators of management fashions. In this role, they have to be convinced of the benefits for their company and of the rationality and innovativeness of the management fashion. Stakeholders expect managers to manage their organizations and employees rationally (e.g. Rogers, 1995; Abrahamson, 1996). Besides rationality, Sahlin-Andersson (1996) distinguishes two other 'editing rules' in the creation of management fashions: context and formulation. A concept develops in a certain context. This, however, is not always fully acknowledged. Often unnoticed, for example, is the incorporation of national preferences in management concepts. A management concept has to be formulated in general terms. There is, however, considerable variation in the degree of clarity, detail, and interpretative viability.

Convincing managers is the main goal of the third (and fourth) stage of the fashion setting process. In this stage the fashion is processed into a appealing proposal for organizational improvement. 'It must, therefore, articulate (a) why it is imperative for managers to pursue this goal and (b) why this technique provides the most efficient means to attain these goals' (Abrahamson, 1996, pp. 267-268). Arguments for adopting the fashion are usually supported with a number of successful examples (*prototypes*).

Røvik (1998) studied the argumentative texture of fashion-setting texts. These texts usually promise enhanced performance after adoption and bankruptcy in case of non-adoption. The fashion or concept is presented as an easily understandable and universally applicable commodity with a catchy title. Moreover the fashion or concept is presented as timely, innovative and future-oriented. Finally, management fashions or concepts have to leave room for interpretation (Benders & van Veen, 2001). Interpretative viability or conceptual ambiguity is necessary for being applicable in many situations.

Notable in management fashion research is the strong attention to the *context* of management fashions, often even to the extent of the context being part of the fashion or concept. Context is regarded as an essential part of a management concept or fashion and without a thorough understanding of this context, it is not possible to understand the concept or fashion. This strong attention to context is more or less implied by the fashion perspective, which strongly focuses on *temporal context*, the genesis (creation) and dynamics (rise and fall) of concepts (fashions). Non-temporal context, however, is also taken into account, as Sahlin-Andersson (1996), for example, points at cultural and

linguistic context. This last type of context posits the fashion or contexts within a broader framework or system and is (hence) called *systemic context*. Hence, a management fashion MF can be defined as a triplet of \mathcal{C}^* , systemic context \mathcal{X} and temporal context \mathcal{H} :

$$\mathbf{D2.3} \quad MF =_{\text{def.}} \langle \mathcal{C}^*, \mathcal{X}, \mathcal{H} \rangle .$$

The different characteristics of management fashions or (/as) concepts mentioned above (and in the MFR literature) can be distributed between these three elements. The first, \mathcal{C}^* could be called 'pure concept' (or something similar). It includes the label, term or title of the fashion, the solution offered and a prototype or example. The second element, \mathcal{X} is the systemic context of the fashion. It includes language, formulation and logic (or rationality), but also a description of the actual problem (to be solved by this management concept) and a reference to the socio-cultural context. The third and final element is the temporal context \mathcal{H} , which includes the creation (or rediscovery), dissemination, (re- / de-) institutionalisation, and (eventual) decline of the concept.

The elements of D2.3 could alternatively be described as *concept*, *theory* and *fashion* respectively. This points to the most interesting fact about MFR: that its subjects are concepts, theories and fashions all in one. The same, however, could be claimed about concepts in social and political science. Concepts such as "society" and "democracy" are not just labels for things in some 'external reality'. These concepts refer to and label theories on social reality and political structure. Most interesting, however, about MFR is its fashion perspective. Ten Bos (2000; 2002; see also § 2.1.2) defends this fashion perspective against utopian perspectives. The difference is that a fashion perspective assumes fleetingness: fashions come and go. The utopian perspective on the other hand, propagates final truths and ultimate solutions. The fashion perspective might not just be useful in MFR, it may also provide a more modest, but also more realistic, starting point for CA in social science. Concepts should be regarded as fashions rather than as *aternal veritates* (Nietzsche 1878, § I.11; see also § 5.1).

2 / 4 / 3 / summary and conclusions

Conceptual history and MFR share a strong interest in the temporal and social context of concepts. Concepts are dependent on their socio-historical context and vice versa. MFR even considers context to be *part* of a concept (management fashion). In subsections 2.2.4 and 2.3.4 it was concluded that context was important in the determination of the meaning of a concept. A concept \mathcal{C} was held to be an ordered couple of term \mathcal{T} and meaning \mathcal{M} (D2.1*) that is somehow related to its referent \mathcal{R} , linguistic context \mathcal{O} and set(s) of synonyms, homonyms and other similar concepts \mathcal{S} . Conceptual history and MFR add the temporal context, the history of the concept \mathcal{H} and a wider notion of context \mathcal{X} , such that $\mathcal{O} \subset \mathcal{X}$ and $\mathcal{S} \subset \mathcal{X}$. More importantly, MFR suggests that concepts do not just *have*

context, but that the context(s) *is* (are) essentially *part of* the concept. As management fashions were defined as $\langle \mathcal{C}^*, \mathcal{X}, \mathcal{H} \rangle$ (in D2.3) and \mathcal{C}^* includes term \mathcal{T} and a description of the fashion or concept which is somewhat similar (but not completely identical) to meaning \mathcal{M} , D2.1* and D2.3 could be combined into:

$$\text{D2.4*} \quad \mathcal{C} =_{\text{def.}} \langle \mathcal{T}, \mathcal{M}, \mathcal{X}, \mathcal{H} \rangle ,$$

or, assuming that \mathcal{X} consists of \mathcal{O} and \mathcal{S} :

$$\text{D2.5} \quad \mathcal{C} =_{\text{def.}} \langle \mathcal{T}, \mathcal{M}, \mathcal{O}, \mathcal{S}, \mathcal{H} \rangle .$$

MFR offers one more valuable insight for CA by means of its fashion perspective. Traditionally, CA is more or less 'utopian' in the sense that it aims at final solutions, final analyses or definitions of concepts. The fashion perspective points at the fact that concepts come into and go out of fashion. Concepts change and disappear and new concepts are born all the time. Moreover, fashion is a social process dependent on group dynamics and social processes of dispersion. If concepts are fashions, there are no final solutions in CA. This same conclusion was reached by Gallie, for example, but in a very different argument. Gallie claimed that many concepts are essentially contested because different groups (or theories) differently value the different composing parts or features of these concepts. In cases like these, CA cannot result in final solutions, but it can provide a common language in which the different interpretations can be translated. It can provide the translation rules necessary for comparison and reasonable communication.

The following sections relax the isolated nature of concepts in traditional CA. Sections 2.5 and 2.6 deal with concepts within wider frameworks, with concepts as parts of linguistic context \mathcal{O} and with \mathcal{O} as a constitutive element of concepts. Finally, section 2.7 attempts to construct a synthetic model of concepts and a methodology for CA in social science based on the ideas presented in this chapter.

2 / 5 / polarity, dialectics and deconstruction

The preceding sections dealt with the analysis of individual or isolated concepts only. However, the focus of this research project is not on an isolated concept, but on a pair of concepts and the relationship(s) therebetween: "culture" and "economy". In the title (and text) of this book, this pair of concepts is called a "dialectic". A *dialectic* is a pair of concepts (or phenomena) that are conceived to be binary opposites but that do in fact interact and/or overlap. The culture - economy dialectic (CED) is hardly a special case. Throughout the history of CA, concepts have been classified mostly by dichotomies (*e.g.*

Sowa 2000). Moreover, binary oppositions seem to play an extremely important part in human thought (e.g. McKellar 1957; Gombrich 1959/77, p. 314; Riegel 1973; Needham 1980; Maybury-Lewis and Almagor (eds.) 1989). However, while many scientists recognise the importance of *dialectical thought*, *concept dichotomization* or *dual organisation* (to name but a small selection of labels suggested for the phenomenon), 'even at the start of the twenty-first century little is known about the nature of dialectical thinking and its effects on basic reasoning, judgment, and decision-making processes' (Peng & Ames 2001, p. 3634)

In this section the origins of dialectical thought (§ 2.5.1), the answer of modern Western philosophy (§ 2.5.2) and its relationship to the CED (§ 2.5.3) will be explained.

2 / 5 / 1 / polarity and the origins of dialectical thought

Dialectical thought, if not universal, is an extremely widespread phenomenon (e.g. Maybury-Lewis 1989). Moreover, it has a very long history. The division of ancient Egypt in lower and upper parts with different pharaohs, for example, was not based on geographical or historical reasons (alone) but on philosophical and cosmological ones. The idea that each totality is composed of pairs of opposites was essential to ancient Egyptian thought and therefore, Egyptian kingship had to be dualistic (Frankfort 1948).

Dialectical thought also strongly influenced early Greek thought. Heraclitus, for example, argued (a.o.) that everything is the product of dialectical opposition and according to Protagoras 'there are two sides to every question, exactly opposite to each other' (Diogenes Laertius IX 51 / 74 A 1). In fact, almost all Greek speculative philosophy was based on two logical forms: *polarity* and *analogy* (Lloyd 1966). Objects were classified either as different (polarity) or identical (analogy). The distinction was (usually) interpreted and applied very strictly: if two objects were perceived to be similar, it was assumed they were similar in every respect. Interestingly, the mutually exclusive but together all-encompassing categories of analogy and polarity function as a polarity themselves, but on a higher level. In a sense, it is a meta-polarity.

Greek and similarly dialectical Jewish thought evolved in Europe into Medieval Christian thought, but – according to Jung (1954) – also into alchemy. Alchemy is not just gold-making as usually believed, but much more a system of thought based on the *mysterium coniunctionis*. The goal of Alchemy is to dissolve binary oppositions (sometimes grouped into a *quaternio*: two crossing binary oppositions) into the *mysterium coniunctionis*. Similarly, in Medieval Christian thought, binary opposites were supposed to be dissolved in the *coincidentia contradictorum*, in God (e.g. Cusanus; Bruno).

Dialectical thought is not unique to the West. It was present, for example, in ancient China (Taoism) and Persia (Zoroastrianism) and still can be found in different cultures all around the world (e.g. Maybury-Lewis & Almagor (eds.) 1989). According to Needham (1980) there is 'a universal tendency to think in twos' (p. 229). The importance of dialectical

opposites or binary pairs in human thought poses the question about its origins. Several answers to this question have been suggested. Hallpike (1979), for example, assumed that binary thought was induced by the 'twoness of reality' (p. 234). In other words, it is not thought that is composed of pairs of dialectical opposites, but the world itself. The fact that upon inspection many examples of dialectical thought prove to exist in thought alone refutes Hallpike's theory. Hence, another answer to the question is needed. Lloyd's (1966) answer to the question about the origins of dialectical thought is of a very different nature. According to Lloyd (1966), antithesis is the simplest form of classification and it is this simplicity which guaranteed its popularity. Mayburg-Lewis (1989) further developed this argument:

'The attractiveness of dualistic thinking lies, then, in the solution it offers to the problem of ensuring an ordered relationship between antitheses that cannot be allowed to become antipathies. It is not so much that it offers order, for all systems of thought do that, but that it offers equilibrium. Dualistic theories create order by postulating a harmonious interaction of contradictory principles.' (p. 13)

Still, this theory seems to be unsatisfactory. Indeed, thinking in two is the simplest form of classification and can be harmonious, but a system of three (or any other small number) is not much more complicated and not necessarily less harmonious. If simplicity and harmony alone explain the phenomenon, there should at least be some cultures that opted for the very slightly less simple three- or four- category systems. There seem to be none.

Thinking in opposites or binary concepts may have to do with sex. Baring and Cashford (1991) claim that the human tendency to think in oppositions is the result of the replacement of the Mother god by a Father god. This happened in Babylonian religion, for example, around 2000 B.C. The Goddess was associated with nature as a chaotic force to be conquered. The male God was its opposite: the conquering force. According to Baring and Cashford, the whole of Judeo-Christian thought is strongly influenced by this legacy of Babylonian mythology:

particularly the opposition between creative Spirit and chaotic Nature, and also the habit of thinking in oppositions generally. We find this, for instance in the common assumption that the spiritual and the physical worlds are different in kind, an assumption that, unreflectively held, separates mind from matter, soul from body, thinking from feeling, intellect from intuition and reason from instinct. When, in addition, the 'spiritual' pole, of these dualisms is valued as 'higher' than the physical pole, then the two terms fall into an opposition that is almost impossible to reunite without dissolving both of the terms. (p. xii)

An alternative explanation, but still based on the male - female dichotomy, is given by Barth (1992). Barth suggests that concept dichotomization, as she calls the phenomenon, is related to ancient thought about the logic of ordered couples (see § 1.3.2). The modern

interpretation thereof was introduced at the end of the 19th century by Peano, while earlier ordered couples were interpreted in terms of poles or sexes. The effect of this kind of ordering is that:

since there are not as many as five poles on a magnet, or five sexes, it is natural for people who use these representational means to develop the assumption that all binary relations that are not-trivially transitive and that form linear or partial orderings must be of a lesser ultimate reality. They will be, and have noticeably been, tempted to consider a dualistic conceptual ordering of all the phenomena in the universe as philosophically more fundamental than transitive comparative ordering (...). (p. 67)

Although dialectical thought is not unique to the Western traditions, but seems to be a universal human tendency, there are differences in how people deal with opposites and the contradictions they produce. In Western thought these contradictions need to be (dis-)solved as in *dialectics* or in *deconstruction*; in Chinese (or even Eastern in general) thought contradictions are much more accepted (e.g. Peng & Nisbett 1999; Peng, Ames & Knowles 2001).

2 / 5 / 2 / dialectics and deconstruction

Dialectical thought dominated Western philosophy throughout Antiquity and the Middle Ages. In the 18th century, however, Kant introduced a third, intermediate category connecting the first and second. The resulting trichotomy evolved into the 'thesis, antithesis and synthesis' of early 19th century German *dialectics*. Here, especially in the work of Hegel (1807; 1812-6), thinking in binary oppositions reached its peak, but also, in a sense, its dissolution. According to Hegel, opposites, thesis and antithesis, are dissolved and reproduced on a higher level (*aufgehoben*) in their synthesis. Hegel's students, and to some extent Hegel himself too, however, sometimes constructed binary oppositions into reality, later to dissolve (*aufheben*) them in another successful application of 'dialectical logic'.

The concepts of "dialectic" and "dialectics" should be distinguished carefully. As mentioned above, the first refers to a pair of concepts (or phenomena) that are conceived to be binary opposites, but that do in fact interact and/or overlap, to a reciprocal relationship, an interaction or a conflict. The second can be the plural of the first, but generally refers to a family resemblance of theories on thought and reality based on change, opposition and conflict (confusingly, the latter is sometimes also called "dialectic" rather than "dialectics"). As recognised by Hegel, dialectics started with the before mentioned Heraclitus: 'Hier sehen wir Land; es ist kein Satz des Heraklit, den ich nicht in meine Logik aufgenommen' [habe] (Hegel 1833, p. 320). Heraclitus argued that all things change continuously: 'We step and do not step into the same rivers; we are and we are not' (fragment 49a); and that all perception is relative: 'The way up and the way down is one and the same' (fragment 60).

Although Heraclitus' dialectics was mainly a theory on nature and material reality and the perception thereof, the idealist Hegel applied it to thought and ideas. Later, Engels reapplied it to material reality in *Anti-Dühring* (1877-8) and *Dialektik der Natur* (1873-83/1925). Dialectics, however, is not limited to Heraclitus, Hegel and Engels. A staggering number of philosophical theories have been labelled dialectic. Bhaskar (1993) distinguishes five types of dialectics based on their subjects alone (ranging from ontology to practice). Within any of these types there are many competing philosophies and interpretations.

Inspired by (some form of) dialectics, Piaget (1974) suggested that there are two types of contradiction: (1) real contradictions, which result from errors in reasoning; and (2) natural contradictions, which result from disequilibria in knowledge: 'un point de vue trop peu défendu: qu'elle ne consitute ni une nécessité interne de la pensée, ni un accident dû à de simples défauts de formalisation, mais qu'elle est l'expression de déséquilibres initialement inévitable dus au manque d'ajustement réciproque entre les facteurs positifs et négatifs' (p. 5). In Piaget's version, dialectical synthesis is re-equilibration. Despite the bewildering number of dialectical theories and philosophies, none of these seems to have developed into a consistent theory of the analysis and synthesis of contradictions.

In the 20th century, dialectical thought became particularly strong in *structuralism*, applied originally to language by de Saussure (1916), but later also to culture. Lévi-Strauss (1958) analysed culture as models of binary oppositions. Levi-Strauss regarded binary oppositions as the logic of the human mind, structuring reality in their image. *Post-structuralism* and especially *deconstruction* (Derrida 1967) opposed the hierarchical aspect of much of dialectical thinking. In almost all cases one of the binary opposites is supposed to be superior to the other. Culture, for example, is often seen as superior to nature. These hierarchies are, through chains of connotations, linked to the original hierarchical relationship between the male and the female. The goal of deconstruction is to demolish or reverse these hierarchies.

Dialectics and deconstruction are the main (Western) answers to dialectical thought. These are different answers, however. The goal of dialectical analysis is (usually) to show that an opposition or contradiction is not an opposition or contradiction at all, that the perceived opposites are very difficult to distinguish, melt into each other, overlap, interact. The goal of deconstruction is merely to unmask hierarchies in binary oppositions and sometimes to replace these with different hierarchies, not necessarily to dispose of the binary opposition itself.

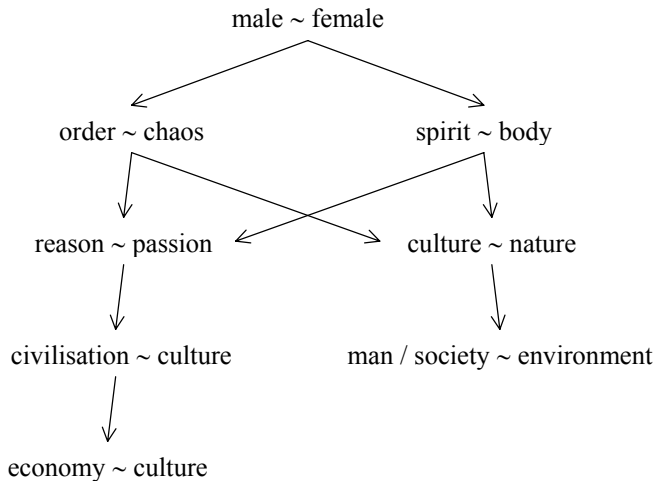
2 / 5 / 3 / summary, conclusions and the origins of the CED

There is a strong tendency in human thought to classify reality in pairs of opposing concepts. *Dialectical thought* can be found in all times and all cultures. The phenomenon is most influentially explained by reference to the male - female dichotomy, which, through

connotations, is assumed to have given birth to many other specific dichotomies and dialectical thought itself. However, dialectical thought is a product of the mind, not of reality and may, therefore, deceive us. Philosophy and science came up with a number of ways to deal with these conceptual dichotomies. The first was dialectics, which – as a philosophical theory – aimed at the dissolution of dialectics as pairs of opposed concepts. The second was deconstruction, which focused on the relationship between the composing concepts of dichotomies or dialectics. Often one of these concepts is considered to be more important or more fundamental. Deconstruction attempts to reverse or remove these hierarchies. Neither dialectics nor deconstruction provided a consistent theory on how to reach these goals.

Interestingly, the CED itself seems to be related to the origins of dialectical thought itself. The culture - economy dialectic is connected to the male - female dichotomy through a relatively small number of links. Figure 2.4 summarises two related chains of connotations starting from the most basic dichotomies of the male and the female, order and chaos and spirit and body (compare Baring & Cashford above):

figure 2.4: *series of binary oppositions*



The first step in the chains of connotations represented in figure 2.4 is the introduction of two pairs: "order" - "chaos" and "spirit" - "body". "Order" and "spirit" (or "mind") are (or were) generally regarded to be male; "chaos" and "body" were female. These two pairs, in their turn, gave rise to the CED and the related man - environment dialectic (MED) that became the subject of geography. "Reason" was associated with "order" and "spirit" and, therefore male; "passion" was related to "chaos" and "body" and, therefore, female. Similar chains of connotations can be found on the other side of the figure.

It is important to note that "culture" is represented in figure 2.4 both on the 'male' and the 'female' sides of the conceptual pairs. This seems to be contradictory, but it is not. Although the labels are the same, these are not the same concepts, they have entirely different meanings, which becomes clear when you take their connotational chains into account. Culture as the opposite of (reasonable) civilisation is the social equivalent of passion; culture as opposed to nature is the human order imposed upon chaotic nature.

The conceptual evolution of the CED and the different paths therein are further dealt with in chapter 3. The next section deals with concepts as parts of ontologies, languages or conceptual frameworks. Together with conceptual dichotomies these are part of the linguistic and/or ontological context \mathcal{O} of a concept.

2 / 6 / language and ontology

Concepts are not isolated 'objects'; they are parts of conceptual structures, frameworks or languages. These form their linguistic and ontological context of the concepts. Concepts are not meaningful in themselves; they only have meaning within this wider context. Particularly scientific concepts 'have to be interpreted in the light of an implied social ontology' (Gittler 1951, p. 365). Hence, it is not just the (meaning of the) concept itself that should be analysed, but also its linguistic and/or ontological context. Although traditionally regarded as part of metaphysics and dealing with 'existence', ontology is also the philosophical and scientific field that deals with conceptual frameworks. Subsection 2.6.1 focuses mainly on ontology as a tool for specification of conceptual structures or frameworks. This kind of ontology is mainly practised in fields like artificial intelligence (AI) and knowledge representation (KR). In these same fields a formal technique for analysing or mapping conceptual structures, Formal Concept Analysis (FCA) (see also § 2.3), was developed. FCA will be explained briefly in subsection 2.6.2.

2 / 6 / 1 / metaphysics and ontology

Metaphysics is generally interpreted as the study or philosophical theory of what is beyond nature and experience, of some more fundamental structure of reality. The term was coined in the first century BC by Andronicus of Rhodes as the title for a collection of fourteen books by Aristotle on subjects such as reality, existence and causality. The title for these fourteen books, *μετὰ τὰ φυσικά*, meaning 'after the physics' merely meant that these books were placed after Aristotle's books on physics. In the early 18th century Wolff proposed to divide metaphysics in four parts: (1) ontology, the study or theory of being or existence; (2) cosmology, the study or theory of the world; (3) rational psychology, the study or theory of

the spirit and/or soul; and (4) rational theology, the study or theory of God. Since Wolff, "ontology" is usually defined as 'the study of being'.

Although the term "metaphysics" became deeply embedded in philosophical terminology, it hardly has a fixed meaning. Bunge (1977), for example, distinguishes ten different interpretations of "metaphysics". Bunge himself suggests that 'metaphysics is *general cosmology or general science*: it is the science concerned with the whole of reality' (p. 5). This implies that all scientific effort is ultimately grounded in some metaphysical theory (e.g. Russel 1948; Lakatos 1969; Harvey 1969; see also Seager 2000). Metaphysics as the study of 'ultimate reality', however, is not what concerns us here. What does concern us is the fact that '*metaphysics can help solve pseudoquestions* that arise in science and originate in misconceptions. (...) *Metaphysics can dig up, clarify, and systematize* some basic concepts and principles occurring in the course of scientific research and even in scientific theories (...)'

(Bunge 1977, p. 23). This 'digging up', 'clarification' and 'systematisation' is the goal of scientific or applied ontology.

Traditionally, *philosophical* or *existential ontology* (EO) was the study asking 'What things exist?' In recent decades the concept of "ontology" was associated with new fields and new questions. The key question in ontology in Artificial Intelligence (AI) and Knowledge Representation (KR) is: 'What things should we represent?' This is the field of *representational ontology* (RO). (e.g. Guarino 1995; Uschold & Gruninger 1996)

Koepsell (1999) claims that 'many real world problems do result from unclear ontologies', and that the goal of applied ontology is to remedy this 'by careful study of the categories of the social world' (p. 220). *Applied ontology* (AO) is often intended to specify the conceptual framework or language of a specific scientific field. (e.g. Singh 1982; Uschold *et al.* 1997; Smith & Mark 1999; Zúñiga 1999; Brons 2001) AO is closely related to *scientific ontology* (ScO), although there are important differences. ScO is closer to traditional ontology (EO) or metaphysics, while AO is more closely related to RO. 'The analysis we expect from scientific ontology concerns, in particular but not exclusively, the ontological categories and hypotheses that occur, either in a heuristic or in a constitutive capacity, in scientific research' (Bunge 1977, p. 10).

Social ontology (SO) studies what ultimately makes up social reality. As such it seems to be a special type of EO. However, SO could also be interpreted as the ontology of the social sciences. Hence, like ScO, SO is a mix of EO and AO. (e.g. Searle 1969; 1995; Thomasson 1997; Weissman 2000)

Formal ontology (FO), finally, is the study of formal categories such as parts and wholes, introduced by Husserl (1900-1) (see also § 2.3.3). FO has to be distinguished from formalisation in ontology, which is increasingly applied in all the before mentioned fields. (e.g. Smith & Mulligan 1983; Smith 1996)

The above distinctions may seem 'harder' than they are in practice. Some modern ontologists publish work in more than one, some even in all (Barry Smith, for example), of these fields.

The concept of "ontology" does not only refer to scientific or philosophical fields or theories but also to what (some of) these fields study. *An ontology* is defined by Gruber (1993) as a 'specification of a conceptualisation' (p. 200). Similarly, Uschold and Gruninger (1996) think of an ontology as 'an explicit account of a shared understanding in a given subject area' (p. 93). An ontology is a specified set of concepts, a conceptual structure or framework, a language. Ontologies, in this sense, are necessary for communication. The relationship of a concept to an ontology is both that of member to set and that of case to context. Within CA then, *an ontology* is the linguistic context \mathcal{O} of a concept and *ontology* as a tool should (help) specify this linguistic context. Although both Gruber's and Uschold and Gruninger's definitions of "an ontology" are published in articles on RO, the type of ontology closest to this goal is AO. In practice, RO and AO seem to be closely related, the main difference being that RO is normative, while AO is descriptive.

There is no standard methodology in AO, nor is there in any of the other types of ontology (e.g. Uschold & Gruninger 1996; Rosenberg 1997). The most basic rule in ontology is probably 'Ockham's razor': *Entia non sunt multiplicanda praeter necessitatem* ('entities should not be multiplied more than necessary'). (Although attributed to the 14th century philosopher Ockham, it has not been found in this form in any of his works.) Ockham's razor is the methodological rule in ontology that one should not assume more entities than necessary and that one should prefer the ontology that contains the smallest number of categories or types of entities:

Our acceptance of an ontology is, I think, similar in principle to our acceptance of a scientific theory, say a system of physics: we adopt, at least insofar as we are reasonable, the simplest conceptual scheme into which the disordered fragments of raw experience can be fitted and arranged. (Quine 1948, pp. 35-36)

Bunge (1977) proposed ten rules for ScO, which could also apply to AO. However, Bunge's rules seem to be a bit obvious. His most important (most relevant in AO) rules are: (1) formalise everything (in logical, set-theoretical or other mathematical notation); (2) avoid words with an ambiguous meaning; (3) be rigorous and exact; (4) use objective terms only; (5) be systematic; (6) test for coherence but also for compatibility and contiguity with contemporary science. The most important of Bunge's rules is the first: formalisation. Most of the others will apply automatically in formal analyses. Bunge was, however, not alone in arguing in favour of formalisation in ontology and/or CA. Rather on the contrary. The defenders of formalisation also include, for example, Russell, who came up with the rule that 'Wherever possible, logical constructions are to be substituted for inferred entities' (1914, p. 115). A final important methodological rule can be derived from Quine's (1968) principle of ontological relativity (see § 2.2.3): in ontological research more ambiguous terms or concepts have to be defined in less ambiguous or preferably even unambiguous terms.

2 / 6 / 2 / formal analysis of conceptual structures

Related to RO, a formal mathematical technique for mapping and analysing conceptual structures was developed in artificial intelligence (AI) and knowledge representation (KR). This technique is called Formal Concept Analysis (FCA). FCA was developed by Wille (1982) as an application of ordered set and lattice theory. (For a brief non-mathematical introduction to FCA, see: Wolff 1994; for its mathematical foundations, see: Ganter & Wille 1999.) FCA is based on the philosophical idea of a concept having an intension and an extension (see § 2.2.3). The intension is the set of attributes necessarily true of an object for a certain concept to apply; the extension is the set of all the objects to which that concept applies. Based on this idea, Wille introduces the *formal context* of a set of concepts. The formal context is a table summarising the extensions and (rather simplified) intensions of a set of concepts. Table 2.2 gives an example.

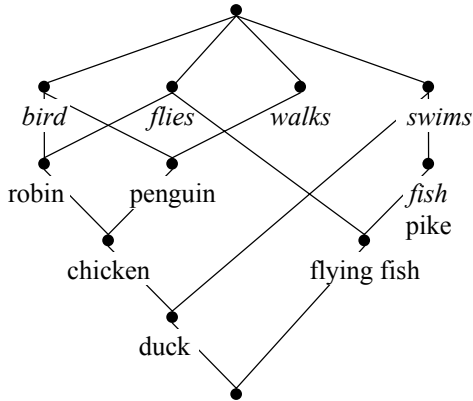
table 2.2: *formal context (example)*

	bird	fish	walks	swim	flies
pike		X		X	
duck	X		X	X	X
robin	X				X
penguin	X		X		
chicken	X		X		X
flying fish		X		X	X

From this formal context a line diagram, the *concept lattice*, can be calculated that reflects the structure of the concepts in the formal context. Such a diagram consists of circles and lines and the names of the attributes in the given context. Information from this diagram can be read following the rule: 'An object *g* has an attribute *m* if and only if there is an upwards leading path from the circle named by '*g*' to the circle named by '*m*' (Wolff 1994, p. 431). (Note that there is mention of an upwards leading *path*, not of a single *line segment*.) The concept lattice of the formal context in table 2.2 is drawn in figure 2.5.

FCA is most useful in mapping the effects of changes in conceptual structures. Adding or deleting concepts from the formal context can result in dramatic changes in the lattice. In the example above, deleting the penguin and the flying fish, for example would combine the robin, 'bird' and 'flies' in a single point. Besides mapping conceptual structures, FCA could also be used to map 'intensional structures'. Constructing a formal context based on different definitions of more or less the same concept would result in a lattice that graphically represents the different interpretations of that concept and how these are related to each other.

figure 2.5: concept lattice based on table 2.2 (example)



Intensional structure could also be mapped with the help of the statistical technique of (hierarchical) cluster analysis. FCA, however, comes with an advantage. Contrary to cluster analysis, FCA shows the *genus - species* relationships between the different concepts mapped.

Although FCA may be useful either to map the linguistic context of a concept, the conceptual structure, or to map the diverse interpretations of that concept itself (its intensional structure), one serious objection has to be made to FCA. This objection is that FCA only works with extremely simplified intensions. Intensions of all concepts in the structure have to be summarised in a relatively small number of dummy variables. This, may, however, in many cases prove to be very difficult, and moreover, result in a substantial loss of information. (See § 4.4.2 for an application of FCA to the concept of "culture" as an example of the problems mentioned here.)

2 / 6 / 3 / summary and conclusions

Ontology is related to CA in (at least) two ways. Firstly, an ontology as a 'representation of a conceptualisation' (Gruber 1993, p. 200), as a conceptual framework, is the \mathcal{O} in D2.5, repeated here:

$$D2.5_R \quad \mathcal{C} =_{\text{def.}} \langle T, \mathcal{M}, \mathcal{O}, \mathcal{S}, \mathcal{H} \rangle .$$

Secondly, ontology and CA both study concepts and may, therefore, be strongly related methodologically. The three most important methodological rules of ontology are (1) Ockham's razor (do not introduce more entities than necessary); (2) formalisation; and (3) define more ambiguous terms or concepts in less ambiguous or preferably even unambiguous terms.

Like ontology, FCA studies (and maps) conceptual frameworks or parts thereof. FCA is a formal mathematical tool used for mapping conceptual structures, frameworks or ontologies. It is especially useful to determine the relationships between different (groups of) concepts and to assess the effects of changes in conceptual frameworks. It could, moreover, be used as a formal tool in mapping the intensional structure of a set of semasiologically and onomasiologically (see § 2.4.1) related concepts, a set of synonyms and homonyms \mathcal{S} .

The next and final section of this chapter summarises the ideas on the analysis of the concept of "concept" presented in the preceding sections, elaborates on this and finally, presents some methodological guidelines for CA of the CED and in social science in general.

2 / 7 / a synthetic model and its application

In this final section of chapter 2, a synthesis into a single model of concepts for CA of the theories and philosophies on concepts and conceptual analysis (CA), dealt with in the previous sections, is presented. The goal of this chapter, and this section especially, is to construct a methodology that is based on the CA literature, that is applicable to concepts in social science and that can be used as a method for the analysis of the culture - economy dialectic (CED) in following chapters. Sartori's (1984b) influential CA methodology (§ 2.3.1) started with an analysis of the concept of "concept". Similarly, here an analysis of "concept" provides the foundations for a theory and methodology of CA. This analysis proceeds by constructing a model of concepts by specification and definition of its composing parts. The model, therefore, can be regarded as an ontology of parts or elements of concepts. Hence, the methods most applicable in building this model are those related to ontological research and ontology building as specified in subsection 2.6.1 (formalisation, Ockham's razor, etc.). The final parts of this chapter, subsections 2.7.2 and 2.7.3, consider the application of the model to CA in social science and to the analysis of the CED, respectively.

2 / 7 / 1 / a general model of concepts for CA

In subsections 2.2 and 2.3 a number of 'meaning triangles' were discussed. These meaning triangles are attempts to specify the basic components of concepts. Ignoring the details and differences in terminology in the different versions, meaning triangles assume that for every concept \mathcal{C} there is an ordered triplet of term \mathcal{T} , meaning \mathcal{M} and referent \mathcal{R} in which meaning somehow connects the term to the referent: $\langle \mathcal{T}, \mathcal{M}, \mathcal{R} \rangle$. The referent \mathcal{R} , however,

is (generally) not regarded to be part of the concept itself, but of the extra-linguistic reality the concept refers to, which would imply that a concept *is* $\langle \mathcal{T}, \mathcal{M} \rangle$ and *has* \mathcal{R} . Alternatively, Jackendoff (2002) defines a word as a 'triplet of phonological structure, syntactic structure, and meaning' (p. 51; see also § 2.1.2). If phonology and syntax are summarised as "term" we end up with the same result:

$$\mathbf{D2.1}^*_R \quad \mathcal{C} =_{\text{def.}} \langle \mathcal{T}, \mathcal{M} \rangle .$$

Of these two elements, only meaning \mathcal{M} needs further analysis (\mathcal{T} is a singleton). Meaning is usually the ultimate goal of CA. Meaning \mathcal{M} is what connects the term \mathcal{T} to the referent \mathcal{R} . Meaning determines whether the term \mathcal{T} is applicable to an object x ; whether x belongs to the extension \mathbb{E} of the concept \mathcal{C} ; and if so, to what extent. If the extension \mathbb{E} of \mathcal{C} is defined as the set of all 'things' to which \mathcal{C} applies (the set of instantiations of \mathcal{C}) and the intension \mathbb{I} of \mathcal{C} is defined as the set of properties, qualities, characteristics or attributes a 'thing' must have (and/or must *not* have) for \mathcal{C} to apply (see also § 2.2.3), meaning \mathcal{M} can be defined as:

$$\mathbf{D2.6} \quad \mathcal{M} =_{\text{def.}} \langle \mathcal{E}, \mathbb{I}, \mathbb{W} \rangle ,$$

in which \mathbb{W} is the set of weights of the elements of \mathbb{I} and both are ordered sets, such that:

$$\mathbf{D2.6a} \quad \forall i [i \in \mathbb{I} \leftrightarrow \exists w [w \in \mathbb{W} \wedge \text{weighs}(w, i) \wedge 0 \leq w \leq 1]] ,$$

in which the two-place predicate *weighs* means that w is the weight of i (in other words: each element of the intension \mathbb{I} has a weight w and \mathbb{W} is the set of these weights, such that $\mathbb{I} = \langle i_1, i_2, \dots, i_n \rangle$ and $\mathbb{W} = \langle w_1, w_2, \dots, w_n \rangle$ in which w_1 is the weight of i_1 , w_2 is the weight of i_2 , etc.) (Note that it could be argued that the intension of a concept is $\langle \mathbb{I}, \mathbb{W} \rangle$ rather than \mathbb{I} , which would suggest to write D2.6 as $\mathcal{M} =_{\text{def.}} \langle \mathcal{E}, \langle \mathbb{I}, \mathbb{W} \rangle \rangle$, but for the argument presented here this, however, bears little relevance.);

and in which \mathcal{E} is a (mathematical) function that specifies how \mathbb{I} and \mathbb{W} (or $\langle \mathbb{I}, \mathbb{W} \rangle$) determine (-s) the extent or degree to which a concept \mathcal{C} is applicable to an object x (which is the same as the extent or degree to which an object x is a member of the extension \mathbb{E} of \mathcal{C}), which can be 1 (\mathcal{C} applies) or 0 (\mathcal{C} does not apply) in the case of classical concepts or anything in between in the case of prototypical concepts (see § 2.2.3). \mathcal{E} and \mathbb{W} can be accommodated to define the meaning of both these types of concepts. The general form of \mathcal{E} is:

$$\mathbf{D2.6b} \quad \mathcal{E} =_{\text{def.}} \mathcal{F} \left(\frac{\sum_{i \in \mathbb{I} \wedge i(x)} w_i}{\sum_{i \in \mathbb{I}} w_i} \right) , \text{ such that: } 0 \leq \mathcal{E} \leq 1 ,$$

in which $\sum_{i \in \mathbb{I}} i(x) w_i$ (the numerator) is the sum of the weights w of the elements of the intension \mathbb{I} that are also properties of the object x ($i(x)$) and hence, the fraction between the parentheses – here further abbreviated " ξ " – measures the extent to which \mathbb{I} and the set of properties of x overlap. In the case of classical concepts, all weights w (elements of \mathbf{W}) are 1 and the function $\mathcal{F}(\xi)$ returns either 1 if $\xi = 1$ and 0 otherwise. In the case of prototypical concepts, weights w have values between 0 and 1 and $\mathcal{F}(\xi)$ can return any value between 0 and 1, but there may be a threshold that determines that $\mathcal{F}(\xi) = 1$ iff $\xi \geq \text{threshold}$ and $\mathcal{F}(\xi) = 0$ otherwise.

To summarise D2.6 to D2.6b as briefly as possible: *the meaning of a concept is a set of conditions and rules (based on weighted properties) a 'thing' must conform to, to be an instantiation of that concept.* Properties, however, are concepts themselves. Hence, meaning is a set of concepts and relationships (weights, functions, etc.) between these concepts and their (potential) instantiations:

D2.7 $\mathcal{M} =_{\text{def.}} \langle \mathbb{C}_M, \mathbb{R}_M \rangle$.

The main problem with this (kind of) definition (D2.6 to D2.6b especially) is that it is based on a rather atomistic notion of properties. Like most (possibly all) other concepts, property concepts are often (if not always) fuzzy, ambiguous and/or contested. Moreover, concrete 'things' have *infinitely* many properties that can be *infinitely* divided in more specific or more detailed properties. There is no rock bottom: there are no *final*, *primitive* or *given* properties (see also Sellars 1963 and §2.2.2).

If properties, either as attributes of a particular 'thing' or as elements of an intension of a concept, are unclearly bounded and defined, it is impossible to (unambiguously) specify \mathbb{P}_x , \mathbb{I} , \mathbf{W} , \mathbb{C}_M or \mathbb{R}_M which would make the above impossible to apply. At least it would make it impossible to specify $\langle \mathbb{C}_M, \mathbb{R}_M \rangle$ *completely and (completely) unambiguously*. Therefore, any specification of $\langle \mathbb{C}_M, \mathbb{R}_M \rangle$ is contingent upon the set of concepts that makes up the language and the world (see § 2.1.1) of the analyst. Nevertheless, these contingent specifications may – to some extent – clarify the concept if the specifications are at least less ambiguous than the concept analysed itself (see § 2.2.3 on 'ontological relativity').

The meaning triangles and Jackendoff's definition do not offer the only possible description of the elements of a concept. Most descriptions, however, more or less coincide with the $\langle \mathcal{T}, \mathcal{M} \rangle$ interpretation or add a single element. Subsection 2.4.2 describes the most important exception. Management fashion research, hardly influenced by linguistics and philosophies of language, studies management fashions or management concepts, which can be interpreted as (ordered) triplets of 'pure concept' \mathcal{C}^* , 'systemic context' \mathcal{X} and 'temporal context' \mathcal{H} :

D2.3_R $MF =_{\text{def.}} \langle \mathcal{C}^*, \mathcal{X}, \mathcal{H} \rangle$.

The 'pure concept' is rather similar to \mathcal{C} as defined above and is composed of the label or term \mathcal{T} of the management fashion and the practices labelled thereby, which could be interpreted as its meaning \mathcal{M} . As management fashions are normative rather than descriptive concepts, they refer to what should be, not to what is. Nevertheless, D2.6 to D2.6b are applicable here, provided that the extension referred to is a (set of) theoretical (or hypothetical) prototype(s). Hence, \mathcal{C}^* is $\langle \mathcal{T}, \mathcal{M} \rangle$ and, as subsection 2.4.2 claimed that what is true of management fashions is true of concepts in general, combining D2.1* and D2.3 results in:

$$\mathbf{D2.4^*_R} \quad \mathcal{C} =_{\text{def.}} \langle \mathcal{T}, \mathcal{M}, \mathcal{X}, \mathcal{H} \rangle .$$

The temporal context \mathcal{H} of a concept \mathcal{C} is its conceptual history (see § 2.4). \mathcal{H} consists of the (ordered) set of semasiologically (same term, different meanings) and onomasiologically (different terms, similar meanings) interrelated concepts \mathcal{C}_H that \mathcal{C} belongs to ($\mathcal{C} \in \mathcal{C}_H$); and the (ordered) set of relations between these interrelated concepts \mathcal{R}_H :

$$\mathbf{D2.8} \quad \mathcal{H} =_{\text{def.}} \langle \mathcal{C}_H, \mathcal{R}_H \rangle ,$$

which means, that \mathcal{H} should be interpreted as a (system of) interrelated chronological chain(s) of concepts $\langle \mathcal{C}_1, \mathcal{C}_2, \dots, \mathcal{C}_n \rangle$ with different meanings $\langle \mathcal{M}_1, \mathcal{M}_2, \dots, \mathcal{M}_n \rangle$, different systemic contexts and different terms, ultimately leading to \mathcal{C} itself.

The systemic context \mathcal{X} of a concept \mathcal{C} is the 'system' of theories, languages, terminologies and/or language games (etc.) it is used in and/or refers to (see §§ 2.2 to 2.4 and § 2.6), the binary oppositions it is part of (see § 2.5), and the (social) groups it is used by (see § 2.2). \mathcal{X} is rather similar to \mathcal{H} , in the sense that \mathcal{X} , like \mathcal{H} , specifies a set of related concepts $\langle \mathcal{C}_1, \mathcal{C}_2, \dots, \mathcal{C}_n \rangle$; however, \mathcal{X} also specifies the theoretical, ontological and socio-cultural context of \mathcal{C} . Hence, \mathcal{X} consists of two parts: (1) the *terminological context*, the set \mathcal{S} of concepts related to \mathcal{C} such as synonyms, homonyms and other onomasiologically or semasiologically similar concepts, and (2) the *theoretical, ontological, (socio-)linguistic and/or socio-cultural context* \mathcal{O} in which \mathcal{C} itself is used (or which \mathcal{C} is part of). Substituting \mathcal{O} and \mathcal{S} for \mathcal{X} in D2.5* then results in:

$$\mathbf{D2.5_R} \quad \mathcal{C} =_{\text{def.}} \langle \mathcal{T}, \mathcal{M}, \mathcal{O}, \mathcal{S}, \mathcal{H} \rangle ,$$

in which the terminological context \mathcal{S} can be defined, similarly to D2.7 and D2.8, as

$$\mathbf{D2.9} \quad \mathcal{S} =_{\text{def.}} \langle \mathcal{C}_S, \mathcal{R}_S \rangle ,$$

in which \mathbb{C}_S is the (ordered) set of onomasiologically and semasiologically related concepts \mathcal{C} belongs to ($\mathcal{C} \in \mathbb{C}_S$); and \mathbb{R}_S is the (ordered) set of relations between these concepts. If some older forms of concepts are still in use, which is generally the case, \mathbb{C}_S and \mathbb{C}_H overlap considerably. \mathbb{C}_H and \mathbb{C}_S both specify sets of onomasiologically and semasiologically related concepts including \mathcal{C} itself. An important difference (besides the fact \mathbb{C}_H and \mathbb{C}_S merely overlap and do not generally coincide) between \mathcal{H} and \mathcal{S} is that in the former concepts (the elements of \mathbb{C}_H) are ordered (related) historically or evolutionary, while there is no 'natural' order of the elements of \mathbb{C}_S .

\mathcal{O} refers to the context in which \mathcal{C} is used. \mathcal{O} can refer to a theory; a conceptual framework, ontology or language; a (conceptual) dialectic or dichotomy; a scientific community; a socio-cultural group; or a combination of any of these. Conceptual frameworks, ontologies, languages, theories, etc. can all be interpreted as sets of concepts and relationships between these concepts: $\langle \mathbb{C}_O, \mathbb{R}_O \rangle$. And if the defining characteristics of a group, disregarding the fact whether it is a socio-cultural group or a scientific community, is its language or conceptual framework, as is suggested by, for example, Winch (and others; see § 2.2.2), these can be defined as $\langle \mathbb{C}_O, \mathbb{R}_O \rangle$ as well. Therefore, ontological and (socio-) linguistic context \mathcal{O} is a set of concepts and relationships $\langle \mathbb{C}_O, \mathbb{R}_O \rangle$. However, these ordered couples $\langle \mathbb{C}_O, \mathbb{R}_O \rangle$ (languages, theories, socio-cultural groups, etc.) generally have names or labels, or could be labelled at least. A *complete* definition of \mathcal{O} then would be a triplet:

$$\mathbf{D2.10} \quad \mathcal{O} =_{\text{def.}} \langle \mathcal{L}, \mathbb{C}_O, \mathbb{R}_O \rangle ,$$

in which \mathcal{L} is the name or label of the language, theory, language-game, socio-cultural group, scientific community, etc. that \mathcal{O} refers to (or in other words, \mathcal{C} is used in). Like \mathbb{C}_H and \mathbb{C}_S , \mathbb{C}_O includes \mathcal{C} ($\mathcal{C} \in \mathbb{C}_O$). However, the other elements of \mathbb{C}_O specify the other concepts used in the same ontological and/or (socio-)linguistic context. Hence, contrary to the elements of \mathbb{C}_H and \mathbb{C}_S , the elements of \mathbb{C}_O are not related onomasiologically or semasiologically, but by the fact that they are used in the same ontology or language or by the same social group. In practice, specifying all of the concepts, all the elements of \mathbb{C}_O is not very useful. It is generally only the label \mathcal{L} that CA is interested in. A full specification of a language or theory that \mathcal{C} is part of would be a painstaking effort that would add little to the analysis. Hence an analysis of \mathcal{O} is generally limited to the specification of \mathcal{L} . (However, if \mathcal{L} is relatively unknown, a short description of \mathcal{O} may be necessary.)

Inserting D2.7 tot D2.10 results in:

$$\mathbf{D2.5a} \quad \mathcal{C} =_{\text{def.}} \langle \mathcal{T}, \langle \mathbb{C}_M, \mathbb{R}_M \rangle, \langle \mathcal{L}, \mathbb{C}_O, \mathbb{R}_O \rangle, \langle \mathbb{C}_S, \mathbb{R}_S \rangle, \langle \mathbb{C}_H, \mathbb{R}_H \rangle \rangle ,$$

which shows that a concept is a set of sets (of sets) of (other) concepts and relationships therebetween. CA, therefore, is translation of the concept to be analysed in sets of further concepts (see also § 2.2.1). This set theoretical definition of concepts implies that two

concepts are the same concept only if these sets coincide; hence, if all elements (of the elements) of \mathcal{C}_1 and \mathcal{C}_2 are (completely) identical:

$$\mathbf{T2.3} \quad \forall \mathcal{C}_1, \mathcal{C}_2 [\mathcal{C}_1 = \mathcal{C}_2 \leftrightarrow \forall x [\varepsilon(x, \mathcal{C}_1) \leftrightarrow \varepsilon(x, \mathcal{C}_2)]] ,$$

in which $\varepsilon(x, \mathcal{C})$ means that x is an element or value (of an element) of an element of \mathcal{C} . T2.3 implies that, for example, \mathcal{C}_1 and \mathcal{C}_2 with the same term and the same meaning but used by different social groups are different concepts. Moreover:

$$\mathbf{T2.4} \quad \text{for all two natural language concepts } \mathcal{C}_1 \text{ and } \mathcal{C}_2 : \\ \forall x [(\varepsilon(x, \mathcal{C}_1) \wedge \neg \varepsilon(x, \mathcal{C}_2)) \rightarrow \exists y [y \neq x \wedge \varepsilon(y, \mathcal{C}_1) \wedge \neg \varepsilon(y, \mathcal{C}_2)]] ,$$

which can be summarised in ordinary language as 'differences never come alone'. For any two concepts that differ in *any* respect, there is at least one more difference between the two. Even in the case of synonyms the difference is not limited to distinctive terms or labels. The two variants have different conceptual histories and different connotations and are used in different contexts. (Note that, while all other formulas presented above are analytical statements, T2.4 is, although obvious, not analytical, but an empirically testable hypothesis.)

D2.5a and T2.4 reconfirm Quine's conclusion that concepts derive their meaning from the theoretical and socio-linguistic setting they are used in and that the unit of analysis is a language as a whole rather than a single concept (see § 2.2.1). As Sartori asserted, this is 'outrageously unhelpful advice' (see § 2.3), however. Nevertheless, the model developed here can be used as a framework for actual CA, as will be shown in the next subsection.

2 / 7 / 2 / application of the model

Unfortunately, application of the model presented above in CA in social and/or political science is far less exact or rigorous than the formal model may suggest. CA is not an exact science, but the application of this model may provide some structure to it at least. The model suggests some rules for CA, which can be summarised in a two-stage methodology. The first stage is the *mapping stage*; the second is the *reconstruction stage*. The mapping stage aims at the description of the elements (of the elements) of the analysandum; it is the goal of the reconstruction stage to provide translations rules or definitions depending on the type of concept(s) to be analysed.

CA obviously starts with the identification of the analysandum \mathcal{A} , the concept or concepts \mathcal{C} to be analysed. CA does not have to be an analysis of a single concept, but if sets of concepts are analysed, one has to be clear about how the concepts in this set are related and why the set has to be analysed as a whole. Hence, the analysandum \mathcal{A} is a set of first-level concepts \mathcal{C}_A and relationships \mathcal{R}_A :

D2.11 $\mathcal{A} =_{\text{def.}} \langle \mathcal{C}_A, \mathbb{R}_A \rangle$,

If the analysandum is a single concept, \mathcal{A} is a singleton $\langle \mathcal{C} \rangle$; if for example, a binary opposition is analysed (see § 2.5), \mathcal{A} is a set $\langle \langle \mathcal{C}_1, \mathcal{C}_2 \rangle, \mathbb{R}_{\text{bin.op.}} \rangle$. As concepts in binary oppositions have a history as a pair and (partly) derive their meaning from the opposition, analysis of the pair is generally preferable to analysis of only one of its elements. It is important to note that in many cases the relationship between \mathcal{C}_1 and \mathcal{C}_2 contains more information than the bare fact that they are part of a binary opposition (or some other kind of linguistic framework). In these cases, the relationship itself may be a third concept. If, for example, \mathcal{C}_1 and \mathcal{C}_2 are binary opposed concepts referring to events that are causally related such that a \mathcal{C}_1 -event causes a \mathcal{C}_2 -event, the relationship between \mathcal{C}_1 and \mathcal{C}_2 consists of three parts: $\mathbb{R}_{\text{bin.op.}}$, their relationship within a theory about the causal relationship $\mathbb{R}_{\text{theory}}$, and the concept of "causation". Hence, $\mathcal{A} = \langle \langle \mathcal{C}_1, \mathcal{C}_2, \text{"causation"} \rangle, \langle \mathbb{R}_{\text{bin.op.}}, \mathbb{R}_{\text{theory}} \rangle \rangle$.

In case of the CED, the two labels of \mathcal{C}_1 and \mathcal{C}_2 are clear as they are implied in the term "culture - economy dialectic". The term "dialectic" refers to the binary opposition between these terms, but does not unambiguously specify the (theoretical) relationships between the referents of \mathcal{C}_1 and \mathcal{C}_2 . Hence:

D2.12 $\mathcal{A}_{\text{CED}} = \langle \langle \text{"culture"}, \text{"economy"}, \mathcal{C}_{\text{relation}} \rangle, \langle \mathbb{R}_{\text{bin.op.}}, \mathbb{R}_{\text{theory}} \rangle \rangle$,

in which $\mathbb{R}_{\text{bin.op.}}$ links "culture" and "economy" directly, and $\mathbb{R}_{\text{theory}}$ links "culture" and "economy" to the intermediate $\mathcal{C}_{\text{relation}}$.

After identification of the analysandum, the analysans is described in the mapping stage. The mapping stage gives a complete overview of what different versions and variants of the concept do and did mean and by whom they are and were used in what contexts. It provides a 'map' of the *conceptual field*, the field of (possible) meanings and/or referents of the different versions and varieties of the concept. The mapping stage reveals its regions (concepts and clusters thereof) and roads (relationships between concepts).

D5(a) and D2.7 to D2.10 imply that concepts have to be analysed as members of sets of interrelated (and usually overlapping) concepts (\mathcal{C}_M , \mathcal{C}_H , \mathcal{C}_S and \mathcal{C}_O) as is summarised in table 2.3. However, all of these members are concepts themselves and are, therefore, themselves elements of (further) sets \mathcal{C}_M , \mathcal{C}_H , \mathcal{C}_S and \mathcal{C}_O that (may) overlap with \mathcal{C}_M , \mathcal{C}_H , \mathcal{C}_S or \mathcal{C}_O of the initial \mathcal{C} , but do not necessarily coincide. Hence, in CA practice, a number of levels in the analysis should be distinguished. *First-level analysis* is the specification of $\langle \mathcal{T}, \mathcal{M}, \mathcal{O}, \mathcal{S}, \mathcal{H} \rangle$ of the initial \mathcal{C} , the *first-level concept*; *second-level analysis* is the specification of $\langle \mathcal{T}, \mathcal{M}, \mathcal{O}, \mathcal{S}, \mathcal{H} \rangle$ of the *second-level concepts*, all the other elements of the sets \mathcal{C}_M , \mathcal{C}_H , \mathcal{C}_S and \mathcal{C}_O , specified as parts of the \mathcal{M} , \mathcal{H} , \mathcal{S} and \mathcal{O} of the initial \mathcal{C} ; and so on. Although in theory the number of levels is infinite, in practice we are not very much interested in these higher-level analyses. Generally, CA can be limited to the specification of $\langle \mathcal{T}, \mathcal{M}, \mathcal{O}, \mathcal{S}, \mathcal{H} \rangle$ of the first level concept and $\langle \mathcal{T}, \mathcal{M}, \mathcal{O} \rangle$ of the second-level concepts.

In practice, this means that CA is the specification of a set of second level concepts (or in fact four of these sets: \mathbb{C}_M , \mathbb{C}_H , \mathbb{C}_S and \mathbb{C}_O) and the \mathbb{T} s, \mathbb{M} s and \mathbb{O} s of these concepts. (Note that determining \mathcal{L} is usually sufficient in the specification of \mathcal{O} .)

table 2.3: *conceptual analysis as the specification of conceptual elements*

analysandum	analysans (specification of ...)
\mathbb{T} term, label	(none)
\mathbb{M} meaning	$\langle \mathbb{C}_M, \mathbb{R}_M \rangle$ intension, essential properties, etc.
\mathbb{O} ontological and (socio-) linguistic context	$\langle \mathcal{L}, \mathbb{C}_O, \mathbb{R}_O \rangle$ (labels or names of) contexts of use, language game(s), language(s), etc.
\mathbb{S} terminological context	$\langle \mathbb{C}_S, \mathbb{R}_S \rangle$ synonyms, homonyms, similar concepts, etc.
\mathbb{H} historical context	$\langle \mathbb{C}_H, \mathbb{R}_H \rangle$ earlier versions and variants

Because \mathcal{C} is an element of \mathbb{C}_H and \mathbb{C}_S and \mathbb{O} specifies the (socio-)linguistic and ontological contexts the elements of \mathbb{C}_H and \mathbb{C}_S are used in, specification of the different elements of \mathcal{C} will result in considerable redundancy: the same concepts will show up over and over again (as elements (of elements) of \mathbb{C}_H , \mathbb{C}_S and \mathbb{C}_O). If a specification of \mathcal{L} is sufficient to describe \mathbb{O} , the specification of the \mathbb{T} s, \mathbb{M} s and \mathcal{L} s of the elements of \mathbb{C}_H and \mathbb{C}_S will include all elements of elements of \mathcal{C} , with only limited redundancy and in a more systematic framework (see table 2.4). CA then consists of *historical* and *intensional mapping*: the specification and analysis of \mathbb{H} and \mathbb{S} respectively. Both mappings specify sets of concepts, the meanings and contexts thereof and the relationships therebetween, but the historical mapping aims at explaining the origins and evolution of the concept, while the intensional mapping is intended to clarify the differences in meaning and use of the concept and related concepts.

table 2.4: *the mapping stage*

	historical mapping	intensional mapping
	\mathbb{H}	\mathbb{S}
\mathbb{C}	$\mathbb{C}_H = \langle \mathcal{C}_{H1}, \mathcal{C}_{H2}, \dots, \mathcal{C}_{Hn} \rangle$	$\mathbb{C}_S = \langle \mathcal{C}_{S1}, \mathcal{C}_{S2}, \dots, \mathcal{C}_{Sn} \rangle$
\mathbb{R}	\mathbb{R}_H	\mathbb{R}_S
\mathbb{T}	$\langle \mathcal{T}_{H1}, \mathcal{T}_{H2}, \dots, \mathcal{T}_{Hn} \rangle$	$\langle \mathcal{T}_{S1}, \mathcal{T}_{S2}, \dots, \mathcal{T}_{Sn} \rangle$
\mathbb{M}	$\langle \mathcal{M}_{H1}, \mathcal{M}_{H2}, \dots, \mathcal{M}_{Hn} \rangle$	$\langle \mathcal{M}_{S1}, \mathcal{M}_{S2}, \dots, \mathcal{M}_{Sn} \rangle$
\mathcal{L}	$\langle \mathcal{L}_{H1}, \mathcal{L}_{H2}, \dots, \mathcal{L}_{Hn} \rangle$	$\langle \mathcal{L}_{S1}, \mathcal{L}_{S2}, \dots, \mathcal{L}_{Sn} \rangle$

If the internal structure of a concept is – more or less – holistic as implied by T2.4, there does not seem to be a natural order in the specification (or analysis) of the elements of a concept and therefore, in the order of historical and intensional mapping. Any change results in other changes; all aspects of the concepts are somehow (either directly or indirectly) connected. Although T2.4 does not say anything about the kinds of relationships

that determine the holistic nature of the internal structure of a concept, generally one could claim that all of the elements of \mathcal{C} determine each other. There is an element, however, that far more strongly determines the others than they determine it. This is the conceptual history \mathcal{H} . Difference in term \mathcal{T} or meaning \mathcal{M} cannot cause difference in *past* history, but *past* history can and does co-determine the other elements of \mathcal{C} . This suggests, that CA as specification of the elements of \mathcal{C} should start with the specification of \mathcal{H} , hence with historical mapping.

Historical mapping is chronological; intensional mapping has no 'natural' order but should reflect the intensional structure of the concept. This intensional structure is basically a map of the different clusters of concepts that are more similar to each other than to other clusters. Intensional structure can be mapped by means of cluster analysis or Formal Concept Analysis (see § 2.6.2). These techniques can be used to cluster (order) the elements of \mathbb{C}_S by their properties. For example, the elements of \mathbb{C}_S could be clustered by the concepts used in their definitions (the elements of \mathbb{C}_M of the elements of \mathbb{C}_S), or by their ontological or (socio-)linguistic context (the \mathcal{L} s of the elements of \mathbb{C}_S) or (preferably) both. The result of such analyses would be a map showing which concepts (elements of \mathbb{C}_S) are more similar in meaning and which are more different and in which contexts all of these concepts are used.

In the second stage, that of *reconstruction*, the set(s) of interrelated concepts that was (were) the result of the mapping stage is (are) the starting point(s). The central question in the reconstruction stage is what measures could and should be taken to minimise confusion and ambiguity in the use of the terms in the mappings. However, 'minimising confusion and ambiguity' does *not* necessarily mean 'providing a single definition'. In many cases, for example when the analysandum is an 'essentially contested concept' (see § 2.4), the goal of reconstruction is to supply the *translation rules* necessary to compare the different versions of the concept and (in this way) to enable (more) reasonable communication between the (social) groups and theories using these different versions. For example, in case a single term \mathcal{T} is used for multiple meanings in a single context \mathcal{O} , it is generally advisable to introduce new terms. On the other hand, in case multiple terms \mathcal{T} denote the same meaning in a single context \mathcal{O} , it might be better to choose one term. In summary: conceptual reconstruction is the re-categorisation of the 'conceptual field'.

Conceptual reconstruction, as intended here, deviates strongly from standard practice in social science. 'The coining of *new terms* for new concepts is (...) considered, by most social scientists, to be pretentious and to be a sign of unseemly egotism on the part of the innovator' (Riggs 1981, p. 13). Nevertheless, concept reconstruction may provide (part of) a more rigorous ontology for a scientific field, a more stable foundation for building new theories, and a common language for comparing and evaluating current and earlier theories in the field.

2 / 7 / 3 / the analysis of the CED

In the following chapters, the method proposed here will be applied to the (concepts of the) culture - economy dialectic (CED). The ultimate objective of the analysis of the CED is to compare, evaluate and integrate its different theories and variants. Because of the nature of the CED as a set of very different theories from very different (philosophical, conceptual, etc.) backgrounds, the goal of CA in this study is not to provide final definitions of "culture", "economy" and the relationship therebetween (which would be neither possible nor very useful), but to provide a common language to enable translation, comparison and integration of the many theories of the CED.

The basic form of the CED is that *there is some kind of cultural phenomenon that is somehow related to some kind of economic phenomenon*. Hence, the object of analysis was identified above as:

$$D2.12_R \quad \mathcal{A}_{CED} = \langle \langle \text{"culture"}, \text{"economy"}, \mathcal{C}_{relation} \rangle, \langle R_{bin.op.}, R_{theory} \rangle \rangle .$$

It is nearly impossible to analyse elements of \mathcal{C}_{CED} in isolation. However, an analysis of $\mathcal{C}_{relation}$ demands at least some clarity on the concepts of "culture" and "economy". Hence, it seems obvious to focus on "culture" and "economy" before dealing in depth with the relationship(s) therebetween. Moreover, $\mathcal{C}_{relation}$ may be the most complicated element of \mathcal{C}_C as it refers to complex theories of social phenomena. Chapters 3 to 5 deal with the mapping stage and the reconstruction stage in the analysis of \mathcal{H} and \mathcal{S} of "culture" and "economy". Chapter 6 focuses on operationalisation and measurement of the reconstructed concepts. The main objective of this research project, however, is not the analysis of these concepts, but of their relationship, both the relationships between the concepts, \mathcal{R}_C , and the relationships between the referents of the concepts, $\mathcal{C}_{relation}$. Both will be dealt with briefly in chapters 3 and 5, but will be put centre ground in chapter 7. Chapter 8, finally, will review the results of the analysis and attempt to assess the relevance of these results to social science.

chapter 3

CONCEPTUAL HISTORY OF CULTURE AND ECONOMY

The history of the idea of culture is a record of our reactions, in thought and feeling, to the changed conditions of our common life.

Raymond Williams 1959, p. 295

(...) civilization itself is the most sensational of departures and the most romantic of rebellions. By dealing with the unsleeping sentinels who guard the outposts of society, it tends to remind us that we live in an armed camp, making war with a chaotic world, and that the criminals, the children of chaos, are nothing but the traitors within our gates.

G.K. Chesterton 1901, pp. 122-123

3 / 1 / introduction

The culture - economy dialectic (CED) belongs to the most fundamental categories of social science. It has co-determined the disciplinary divisions within social science and generated a body of theories on causal relationships in either or both directions. Nevertheless, the CED is surrounded by much conceptual contestation and confusion. The meanings of the terms in the CED differ widely among theories and scientific disciplines, but none of these meanings seems to be presented in an explicit and unambiguous form and different conceptualisations and operationalisations are mixed into an incomprehensible mess. Hence, conceptual analysis is necessary to shed some light on the CED. (see also § 1.2)

This chapter presents the first, historical part of the mapping stage of conceptual analysis (CA), as proposed in subsection 2.7.2. The mapping stage entails the specification of two overlapping sets of concepts: one representing the conceptual history of the CED, \mathcal{H} , the second representing the different usages of the terms and concepts (and related terms and concepts) of the CED, \mathcal{S} . As explained in section 2.7, conceptual mapping of a concept or a conceptual pair as is the case here should start with conceptual history \mathcal{H} , which is the focus of this chapter. The specification of \mathcal{S} , the intensional mapping of the concepts, will be dealt with in chapter 4.

In conceptual history, both the onomasiology (focus on meaning) and the semasiology (focus on the term) (see § 2.4.1) are important. Conceptual analysis deals both with concepts having similar meanings but different terms or labels, and with concepts having the same term or label and a different meaning. These onomasiologically and semasiologically related concepts are the key concepts of the CED.

Baring and Cashford (1991) and Barth (1992) have suggested that the human tendency to think in binary oppositions (or 'concept dichotomization' as Barth calls it) is related to the fact that there are two sexes: male and female (see § 2.5.1). In Babylonian mythology, Chinese philosophy (yin and yang) and Western thought, the male and female are closely linked (by connotation) to other concepts. Table 3.1 gives some examples:

table 3.1: *connotations of the male and female (examples)*

<i>male</i>	<i>female</i>
spirit / mind	body
order	chaos
light	dark
active	passive
reason	passion
culture	nature

As explained briefly in subsection 2.5.3 this male - female dichotomy is strongly related to the CED. In fact, there is a direct route from the male - female dichotomy to the CED and to the related culture - nature dichotomy. Several of the connotations in table 3.1 are intermediate stages in this route, as was shown in figure 2.4 (in § 2.5.3). In studying the conceptual history of the CED the best starting point may be somewhere in the middle of that figure. One could start at the male - female dichotomy at the top of the figure (and at the beginning of the chain), but this dichotomy is far too general to be of much interest. The distinct historical development of the CED started with the opposition of *reason* and *passion*. Hence, that is where the historical analysis in this chapter starts.

Besides "reason" and "passion", figure 2.4 points out a number of other key concepts in the CED, of which "civilisation", as an intermediate between reason and economy, and of course, "culture" and "economy" themselves are the most important. The CED, however, is also strongly related to the culture - nature dichotomy, in which "culture" represents the male side of the dichotomy or dialectic rather than the female side. Key concepts in this route, besides "culture" and "nature" are "society" (or more vaguely: "man" or "mankind"; note that the concept of "man" is *not* used to refer to male persons but to people as a collective whole) and "environment". All of these concepts will be analysed in this and the following chapter (but not equally extensively).

This chapter deals with the historical and intensional mapping of the concepts of "culture" and "economy" (and their most important onomasiological predecessors). After this introduction, section 3.2 begins with the reason - passion dialectic (and related dialectics), the rise of social science and the introduction of the concept of civilisation. Section 3.3 gives a brief historical overview of the semasiology and onomasiology of "culture", after which section 3.4 deals with the opposition of the new concepts of "civilisation" and "culture" and the conceptual dissolution thereof. The latter resulted in the introduction of "economy" in the CED, which has as semasiological history of its own. Section 3.5 deals with this semasiological history of "economy", with the introduction of "entrepreneurship" in the CED, and with the late 20th century developments in the psychology of culture. Section 3.6 deals with the culture - nature or man - environment dichotomy, the other, but related, route of figure 2.4. Section 3.7, finally presents some critical comments on the analysis of the CED. (The next chapter attempts to intensionally map and reconstruct the 'conceptual field' (see § 2.7.2).)

3 / 2 / reason, passion and civilisation

The end of the 18th century and the beginning of the 19th were revolutionary times. A number of strongly interrelated revolutions changed the world and how we see it. These revolutions include the industrial revolution, the French revolution and the conceptual revolution that Koselleck (1979; 1987) refers to as the *Sattelzeit*, and Foucault (1966) as an *epistemic* transformation (see also § 2.4.1 and Heilbron, Magnusson & Wittrock (eds.) 1998; therein especially Wokler 1998). The French revolution and similar political turmoil in other countries brought about a conceptual novelty that can hardly be overestimated: the invention of 'the social'. In feudal and earlier times, philosophers and scientists did not recognise 'the social' as a distinct sphere of reality. There was no society; only the state and its subjects (either households or individuals). (Hence, Thatcher's famous claim that '[t]here is no such thing as society. There are individual men and women, and there are families' (in *Woman's Own* 31 October 1987), is a truly medieval point of view.) What we would call "society" now was part of the property of a ruler and was studied as such. 'Pre-social social science' was mainly a normative science of the management of the state as a very large household.

Political change at the end of the 18th century gave the state's subjects a voice of their own. Moreover, the Jacobinian destruction of the state in France necessitated the formation and legitimisation of a new state. This resulted in the introduction of a new category besides the traditional state - subject (individual or household) dichotomy: society (see § 3.2.2). Before the invention of 'the social', earlier forms of the CED referred to individuals and individual behaviour rather than to social phenomena. Core concepts in these earlier forms were

"reason" and "passion". The concept of "culture" itself was not yet part of the dialectic: it referred to a process of individual development and education (see § 3.3.1).

The subsections below deal with the birth and development of the CED in these revolutionary times. Subsection 3.2.1 focuses on the reason - passion dialectic and a small number of related concepts ("will" and "habit" especially). Subsection 3.2.2 deals with the rise of the social sciences and the transition of the earlier forms of the CED into a dialectic of theories of social reality.

3 / 2 / 1 / reason, habit and passion

Human behaviour is often considered to be the result of some kind of dialectic of reason and passion. It is difficult to say exactly when this notion was first proposed, but it was already implicitly present in myths and legends thousands of years old (for example in the myth of the Mother god; see § 2.5.1). The first explicit statements on this dialectic can probably be found in Greek Antiquity. For most of the Greek philosophers (but not all!), reason was the highest faculty of man. Plato (*Phaedrus*) likened reason to a charioteer dominating his unruly horses (the passions). The Stoics condemned all passion(s) in favour of reason.

In Medieval philosophy, man was considered to be a rational being. According to Augustine, the human soul is a rational substance made to rule the body. Thomas Aquinas asserted that God has endowed man with reason, which implies that reason has a function and that man is obliged to God to perfect this function. Contrary to Stoic philosophy, the passions were not (completely) rejected. Augustine distinguished two passions, two mutually exclusive drives of human behaviour: self-love and love of God. The latter – of course – being good and producing desirable effects such as virtue or pity.

Generally, reason was awarded the dominant role in the dialectic. Reason should (and could) control the passions. Spinoza, Kant and Hegel claimed that "freedom" means 'acting according to reason' and that acting according to the passions is unfree. In a letter to an anonymous critic, Spinoza (1674) explained his position:

This is that human freedom, which all boast that they possess, and which consists solely in the fact, that men are conscious of their own desire, but are ignorant of the causes whereby that desire has been determined. Thus an infant believes that it desires milk freely; an angry child thinks he wishes freely for vengeance, a timid child thinks he wishes freely to run away. Again a drunken man thinks, that from the free decision of his mind he speaks words, which afterwards, when sober, he would like to have left unsaid. So the delirious, the garrulous and others of the same sort think that they act from the free decision of their mind, not that they are carried away by impulse. As this misconception is innate in all men, it is not easily conquered. (pp. 390-1)

Although 'man is necessarily always a prey to his passions' (Spinoza 1677, p. 194), free and virtuous men are 'led solely by reason' (p. 232); freedom comes from understanding your passions. Hence, while reason should guide our behaviour, it often does not. Hume (1740) took a further step by claiming that the passions not only control reason but that they *should* control it: 'Reason is, and ought only to be the slave of the passions, and can never pretend to any other office than to serve and obey them' (§ 2.3.3 / p. 462).

Passion (or the passions) was (were) not the sole enemy of reason, neither was it the only concept on the 'cultural side' of these early forms of the CED. Reason was also opposed to habit, tradition and authority. For example, by Descartes (1637), who pointed out that habit and example are generally more convincing than knowledge or reason. As a result thereof, there is nothing so outrageous or absurd that some people do not accept it as a standard; and nothing so implausible that some philosopher did not believe in it and assert it. Descartes wanted to free himself from these imprints of habits, traditions and examples by the means of reasonable (radical) doubt. (e.g. Gellner 1992)

The Enlightenment is sometimes dubbed 'the Age of Reason'. Indeed, "reason" was one of its core concepts. The philosophers of the Enlightenment strongly believed in the powers of human reason. They were, however, less clear about the nature of reason. Particularly after Kant – who used the concept of "*Vernunft*" (reason) with a variety of meanings – did the concept become increasingly unclear. However, within the context of the CED, two main lines of thought regarding the meaning of the concept of "reason" can be distinguished. The first relates reason to self-interest, the second to logic.

The notion of self-interest or interest is historically related to Augustine's passion of self-love. Augustine's term "self-love" was replaced by "self-interest" because the first was a religious term. The term "self-interest" appeared for the first time in the work of Guicciardini (1512/30), who noted that human behaviour is driven more by self-interest than by reason or morals. The notion was further elaborated in the 16th and 17th centuries in political theory, natural law and moral philosophy. In natural law theory, two competing theories existed. According to Grotius, men are inclined to social life, while Hobbes and Pufendorf (separately) claimed that men are driven by *amour-propre* (self-interest). In the 16th and 17th centuries, moral philosophers and political theorists asserted that men are driven by passions and interest (see also § 3.2.2 on moral philosophy). Before the end of the 16th century, "interest" became one of the central concepts in political theory (Heilbron 1998). The rise of the concept of "self-interest" in moral and political philosophy, the predecessor of social science (see § 3.2.2) is explained by Heilbron (1998):

The notion of "interest" (...) gained intellectual prominence (...) by suggesting a more realistic conceptualization of human nature and human action; and (...) by providing a conceptual basis for new forms of political, social and economic theory. (p. 77)

In the 17th and 18th centuries, self-interest increasingly became part of reason. Spinoza's free man acts (reasonably) in his self-interest. Similar ideas can be found in, for example,

Hume (1740), Voltaire and the developing economic literature of the (late) 18th century, eventually resulting in the invention of *homo economicus*, whose behaviour is fully determined by reasonable self-interest:

Ceux qui ont dit que l'amour de nous-mêmes est la base de tous nos sentiments et de toutes nos actions, ont donc eu grande raison dans l'Inde, en Espagne, et dans toute la terre habitable (...) (Voltaire 1764, p. 62)

Like, Spinoza, Voltaire regarded rational self-interest as virtuous: 'C'est l'amour-propre bien dirigé qui fait les hommes de bon sens véritablement vertueux' (1770 p. 440).

Interestingly, self-interest developed from a passion into an aspect of reason. It is, however, nothing more than *an* aspect of reason and moreover, an aspect that can be missed. Self-interest alone does not define reason, and reason can be interpreted and/or defined without reference to self-interest. There are, however, few explicit definitions of "reason". Implicitly, "reason" is generally related to logic. According to Hume, reason is mathematical and logical reasoning, and to Kant, reason refers to understanding (Rotenstreich 1985). One of the most thorough analyses of the concept of "reason" in this tradition is Miró Quesada's (1963) *Apuntes para una teoría de la razón*. Miró Quesada defines reason as 'la facultad del conocimiento lógico-matemático' (p. 208). Interestingly, Miró Quesada shows that this definition, to some extent, undermines the Enlightenment belief in the absolute authority of reason. Miró Quesada explains that 'el conocimiento racional se manifiesta así como un dinamismo coordinado entre la intuición y la formalización' (p. 315). This process (*dinamismo coordinado*) moves asymptotically in the direction of (reason as) logico-mathematical formalisation (or formalisability). The process is necessarily asymptotical, because Gödel's (1931) theorem implies that reason as a formal logico-mathematical 'system' cannot be complete. Hence, reason is limited; there will always remain an intuitive element. (Some two centuries earlier Rousseau (1762) also reached the conclusion that reason is limited. In his opinion, however, the gap was to be filled with sincerity (e.g. Melzer 1996).)

A final key concept in the pre-social history of the CED is that of "will", which is generally understood as referring to the product of the sum-total of drives and motives that determine human behaviour. In a sense, will is an intermediate between drives and behaviour and the different theories about the relationship between reason and the passions are theories about the formation of will. Will is produced by habits, passions and reason. Will is irrational or at least partially irrational, but reason without will is pointless. Reason alone cannot determine a goal for action; will can and does. Hence, every rational choice is ultimately grounded in (irrational) will. (Kant 1788; 1790; Rotenstreich 1985)

Kant's (1790) interpretation of "will" as the faculty of desire and as the ultimate source of action strongly influenced Fichte and Schopenhauer. Schopenhauer's (1818/44) will however, is completely devoid of reason. "Will" is a mindless, aimless and non-rational

urge that is both the foundation of all our drives and of the world itself. Schopenhauer's most important student Nietzsche (1872/86) explained ancient Greek culture in terms of a dialectic of (Schopenhauerian) will and reason as creative forces. Originally, Greek culture was Dionysic since it was based on will. However, the Apollonic reason slowly took over. According to Nietzsche, a healthy culture is characterised by a balance between the two forces.

Traditionally, reason is opposed to a number of irrational co-determinants of human behaviour: the passions, habit, tradition, authority, example, and will. While the exact nature of the conception of this dialectical relationship and the dominant factor therein has changed over time, the dialectic itself seems to be rather universal. With the invention of 'the social' in the last quarter of the 18th century, the dialectic was applied to a new subject: rationality and irrationality of and in society.

3 / 2 / 2 / social science, Enlightenment and "civilisation"

While the concept of 'the social' was invented at the end of the 18th century, the term "society" has an older conceptual history and society; likewise, though society became an object of study only in the 19th century (e.g. Wagner 2001), social science has some predecessors as well. Seventeenth century science was divided into natural philosophy, moral philosophy or morals, and politics. Natural philosophy encompassed what we now would call physics, chemistry, biology, and so forth; moral philosophy or morals could be compared to the whole of economics, politics, anthropology and sociology; and politics dealt with laws and all things official. Moral philosophy and politics together covered the whole of social reality. In the 1760s the term "moral and political science" was used to cover the whole of these fields. The term "social science" was coined only in the 1790s in circles around Condorcet (Head 1982).

Moral philosophy and *moral and political science* were, however, not social sciences as we now conceive these. These fields were normative sciences of behaviour and management. French *Moralistes* asked the question how one *should* behave. Most importantly, moral and political philosophers studied the management of households in general and of the state as the supreme household in particular. Moreover, moral philosophy could not be a social science in the modern sense, as the (modern) concept of 'the social' itself was still missing. The onomasiological history of "society" starts at the end of the 18th century. The semasiological history, however, starts at a much earlier date, as the term "society" was widely used before. Before the 18th century the term "society" was applied only to small institutional units between the state and the household. Societies were social circles or (legally instituted) associations. In the middle of the 18th century the term was used in combinations such as "political society" and "civil society" to refer to the state as an aggregate of people with a common goal. "Society" in this sense was more or less the

equivalent of the state from the viewpoint of contract-theory. Only at the end of the 18th century was "civil society" increasingly regarded to be something distinct from the state (and the individual or household) (e.g. Wagner 2001). In the same period, technological and socio-economic change enabled societies in the traditional sense, as social circles, to grow considerably. The term society, therefore, was used to denote ever-larger groups of people. This, combined with the concept of "civil society", was almost enough for the conception of 'the social'; it just needed a catalyst. The political changes at the end of the 18th century were this catalyst. (e.g. Wokler 1998; Wagner 2001; see also § 3.2 above)

Political change at the end of the 18th century not only necessitated the introduction of 'the social' as a new category, but also the study thereof: social science. New political conditions demanded a science that delivered more than suggestions for good management of the state as household. There was a fundamental need to understand society and the effects of policies and politics (Wagner 1998). As a result, there was a transition from moral and political science to empirical social science.

The development of social science and the invention of 'the social' were closely linked to the 18th century Enlightenment. Most of the important philosophers and scientists of the Enlightenment were concentrated in France and Scotland. The Enlightenment was built on the foundations of Natural Law and experimental or natural philosophy (early natural sciences; see above). Its core concepts were "reason" and "civilisation". From Natural Law (e.g. Pufendorf, Hobbes, Mandeville) the Enlightenment inherited the supposition that human nature is the same, whatever the circumstances, and that therefore, there is a 'natural order'. The French Physiocrats (early economists) argued that this (natural) order, the structure of social reality, should and could be explained by application of the methods of the natural sciences (experimental philosophy). This methodological position, however, gave birth to two distinct, but not completely independent, approaches in social science: a strongly rationalist approach, focusing on deductive theorising based on generalisation, logic and mathematics; and a more empirical approach. The first of these flourished in economics, the second was the origin of sociology, but also – to a certain extent – of the Counter-Enlightenment.

The Enlightenment was characterised by an unshakeable belief in progress and the power of reason. These were combined in the concept of "civilisation", which can be regarded as the battle cry of the Enlightenment. In the beginning of the 18th century the concept of "civilisation" appeared simultaneously in both French and English. The term was coined independently by Adam Ferguson, a predecessor of sociology from the Scottish Enlightenment, and the Marquis de Mirabeau, a French Physiocrat (early economist). However, the casual use of the term by Ferguson and Mirabeau suggests that the concept had been introduced in spoken language earlier. (Febvre 1930; Benveniste 1953; den Boer 2001b) "Civilisation" came from the Medieval Latin *civilitas*, meaning (a.o.) political community, humanity, citizenry, city life, or something similar.. The concept of "civilisation", however, developed a far broader meaning. At the end of the 18th century, it

was used to refer to (1) the Enlightenment views of man and society; (2) to (a desirable stage in) the development of societies; and (3) as a comprehensive term for the Christian or Western world.

"Civilisation" in the first sense refers to the Enlightenment view of society as a social structure that is not based on virtue but on 'organised exchange among self-interested individuals' (Heilbron 1998, 95). It is rational self-interest (see § 3.2.1) on a social scale. In this sense, "civilisation" is the social equivalent of reason. In its second sense, civilisation is either a process or a stage therein. Civilisation as a process or project is the *Bildung* (education) of humanity or society as a whole (Reill 1998). It is in this meaning of "civilisation" that the influence of the belief in progress is most clear. In its last sense, "civilisation" does not refer to a stage in this process, but to the part of the world that is on its highest stage: the West. It is the first meaning, that of civilisation as the social equivalent of reason that is most interesting here. Civilisation in this sense would later be opposed to the social equivalent of tradition, example, the passions, will, and so forth (see § 3.2.1): "culture".

As mentioned before, the Enlightenment inherited from Natural Law a 'universalist' view of man and society. In this view, man is a rational being and all men world-wide are alike. In other words: human nature is universal. Likewise, society is a kind of universal natural order (or at least, it should be). These are the views covered by the Enlightenment concept of "civilisation". These are also the views that became the foundations of classical (and neo-classical) economics. The science of economics was born, with the concept of "civilisation", in the 18th century Enlightenment (e.g. Skinner 1990). Scientific specialisation, however, was rather unusual until far into the 18th century. Scholars tended to occupy themselves with numerous aspects of nature and society at the same time. Early social scientific thought was strongly normative, more art than science. Only late in the 18th century did the normative nature of early social science slowly change into a more explanatory approach. At the same time, specialisation started and the first social sciences arose.

The foundations of classical economics were laid by the Scottish moral philosopher Adam Smith in his *Wealth of nations* (1776), a synthesis of earlier work by mainly the Physiocrats (Winch 1978; Wittrock, Heilbron & Magnusson 1998). As it was with the Enlightenment in general, Smith's methodology was influenced by both Natural Law and natural philosophy. He used both empirical analyses of historical data and rationalistic arguments based on universal and rational man. After Smith, economics was pushed into a strictly rationalistic direction by his major students Ricardo and Senior. Economics became a science of logical and mathematical constructions on an empirically shaky foundation of universal and rational man: *homo economicus*. Mill (1844) tried to return economics to a broader Smithian methodology, but he had very little success. (e.g. Landreth & Colander 1994) Extreme rationalism still dominates economics.

While economics grew from the rationalist strand in the Enlightenment and slowly became an extreme case of rationalism and universalism, sociology, on the other hand, started off as an empirical investigation of society. The most important predecessor of sociology is Montesquieu, who combined normative and descriptive elements in his famous *De l'esprit des lois* (1748). Although some other scholars attempted to empirically investigate aspects of social behaviour in the 18th century (e.g. Mandeville 1714; Ferguson 1767; see Barnes 1917 for an overview of pre-19th century 'sociology'), sociology became an independent science only in the 19th century in the work of (a.o.) Saint-Simon, Comte and later Marx and Durkheim. As a predecessor of sociology, however, Montesquieu is of great importance, not just for sociology, but for Enlightenment itself, and especially for the reaction thereupon: the Counter-Enlightenment.

Montesquieu's *De l'esprit des lois* was an empirical study of the interrelationships between social and natural phenomena, morals, habits, social institutions and (most importantly) the laws within different societies. Montesquieu distinguished a number of different *types* of societies. This type or nature of a society is the result of (a.o.) physical geography, psychological nature of the people, cultural patterns, history, religion and economic mode of being. All these factors are part of a nation's culture or character. The equilibrium of the parts in this cultural whole determines the legal and political shape of the society. Hence, the character (*l'esprit*) of a nation determines – to a large extent – the nature of its laws (*des lois*). Montesquieu's empirical work dismissed the universalistic view of man and society, which dominated Enlightenment thought. Strongly influenced by Montesquieu, James Steuart started his *An inquiry into the principles of political economy* (1767) with: 'Man we find acting uniformly in all ages, in all countries, and in all climates, from the principles of self-interest, expediency, duty, or passion. In this he is alike, in nothing else' (quoted in Whitaker 1940, p. 731). At a first glance, this may seem to be a middle position between universalism and anti-universalism or even a defence of universalism, but Steuart claimed that the (combinations of) motives of men are so varied that there can be no such thing as a universal man.

Far less influential (at first), but no less important, was the work of the philosopher of history Giambattista Vico. His major work, *Scienza nuova* (1725/44), was written in Italian, which seriously hampered the initial spread of his ideas. (Later, he greatly influenced early comparative social science and linguistics, cultural psychology and sociology; e.g. Olson 1993.) Vico (1725/44) concluded from an abundance of (empirical) historical data, that history is subject to a number of laws:

The order of ideas must follow the order of institutions. This was the order of human institutions: first the forests, after that the huts, then the villages, next the cities, and finally the academies. (§§ 238-239)

For the nations will be seen to develop in conformity with this division, by a constant and uninterrupted order of causes and effects present in every nation (...) (§ 915)

Societies develop according to a fixed scheme in which each stage involves different problems. Hence, in each stage societies, develop the institutions, values and habits to deal with the problems that are characteristic for that stage. According to Vico, there is no such thing as universal human nature: 'the nature of man is not, as has long been supposed, static and unalterable or even unaltered (...) it does not so much as contain even a central kernel or essence, which remains identical through change (...)' (Berlin 1976, p. xvi). (In fact, Vico thought that men are similar across cultures in only a very small number of respects. He suggested, for example, that all men bury their dead (§ 333). Of course the fact of the matter is that even in this respect there is no universal man.)

The Enlightenment ideal of progress, which was especially strong in France and Germany, was reflected in the philosophy of history of (a.o.) Vico, Condorcet, Turgot, Hegel and Herder. The empirical confirmation of this ideal – as theory – by Vico and Montesquieu, however, implied a rejection of the (strongly related) universalism of the Enlightenment. In other words: early (empirical) social science dismissed the idea of universal man. The social and human diversity observed by (a.o.) Vico and Montesquieu was later named "culture" (see § 3.3.1). The Counter-Enlightenment and Romanticism would make "culture" their core concept. As a reaction to the Enlightenment, the passions were prioritised over reason. Similarly the Enlightenment worldview of universal and rational civilisation was replaced by irrational, traditional and diverse culture. Lovejoy (1941) summarises Romanticism as three ideas: (1) an organic relationship between individuals and the wholes they are part of; (2) the primacy of process (and struggle) over (final) states; and (3) a positive valuation of diversity in opinion, taste, life style, and the like.

The Counter-Enlightenment and Romanticism produced new heroes and new ideologies. The new heroes were passionate warriors rather than rational scientists (see for example the works of Nietzsche) and the new ideologies (nationalism, fascism and conservatism) favoured tradition, passion and authority rather than reason. In the 20th and 21st centuries, the Romantic rebellion against the Enlightenment would result in the Second World War, fundamentalist terrorism (both Christian and Muslim) and post-modernism in science.

Chesterton's (1901) claim, that 'civilization itself is (...) the most romantic of rebellions' (p. 122), quoted at the beginning of this chapter, is a nice – but also a bit overblown (!) – illustration of the tension between Enlightenment and its reaction. Enlightenment and the belief in civilisation were a rebellion indeed, a rebellion against Christian dogmatism, traditions and irrationality. Confusingly, Chesterton describes this rebellion as romantic ("utopian" might have been a better term). Note, however, that there is no capital R. The Enlightenment rebellion may have been a romantic rebellion in the sense that its belief in universalism and rationality were hardly realistic; it certainly was not a Romantic rebellion (with capital R). Romanticism itself was the rebellion against the rebellion, a dismissal of reason and civilisation, a return to 'a chaotic world' and 'the children of chaos' (Chesterton 1901, p. 123).

3 / 2 / 3 / summary

Reason was traditionally opposed to the passions. Together they determined behaviour. With the introduction of 'the social' and the concept of "society" and the rise of the social sciences in the late 18th century, the concept of "reason" was lifted to this new level and gave birth to "civilisation". Civilisation was the social equivalent of the Enlightenment ideal of reason. Reason was the Enlightenment's sword; civilisation was its battle cry. Culture, on the other hand, was (and is) the social equivalent of reason's enemies: habit, authority, passion, etc.:

Reason appears as a method, and in effect as the *only* method, of procuring truth. At the same time, Reason is a means of escaping those dread enemies of truth, *custom and example*. It brings liberation from mere non-rigorous and hence error-prone, error-perpetuating accretion and accumulation of ideas, from an unfastidious involvement *in*, and corruption *by*, the world; in brief, from indulgence in mere culture, a set of ideas that is contingent and bound to specific communities and periods. Reason is *purification*. By contrast, culture is corruption-on-earth. (Gellner 1992, p. 55)

While Enlightenment and its counterpart, Romanticism, may seem diametrically opposed, there are, nevertheless, interesting similarities. Both are strongly utopian, as illustrated by Chesterton above, and in both "nature" is a key concept. The perceptions of nature, however, are radically different. While the Enlightenment focuses on nature as regulated by laws that can be discovered by man, the Romantic perception of nature is aesthetic rather than scientific. The Enlightened nature is structured and *reasonable*, while Romantic nature is lush, chaotic and completely *unreasonable*.

The next section (§ 3.3) focuses on the conceptual history of "culture". Section 3.4 deals with the culture - civilisation dialectic as a stage in the historical development in the CED.

3 / 3 / conceptual history of "culture"

The concept of "culture" was introduced at the end of the 18th century in the Counter-Enlightenment to describe the diversity of beliefs, rules and practices among peoples as found and described by some of the predecessors of social science (see § 3.2.2). "Culture" became the opposite of "civilisation" as 'social reason', "culture" came to denote social unreason, it was the social equivalent of tradition, example, passions, will, and so forth (see § 3.2.1). The history of the concept of "culture", however, started well before the Counter-Enlightenment.

Conceptual historians have been researching the conceptual history of "culture" for a long time. Important contributions include Niederman (1941), Kroeber & Kluckhohn (1952); Williams (1959); Perpeet (1976); Fisch (1991) and den Boer (2001b) (see also O'Hear 1998; Schweder 2001). The onomasiological history of "culture", however, remains largely ignored. Generally, the only concept related to "culture" that is dealt with by conceptual historians is "civilisation". Nevertheless, there are some strongly related concepts that must be investigated to derive at a full(er) picture of the conceptual history of "culture". Hence, this section deals both with the semasiological history of "culture" (§ 3.3.1) and its onomasiological history (§ 3.3.2) (see also § 2.4.1).

3 / 3 / 1 / the semasiology of "culture"

Contrary to "civilisation", "culture" is not a new word. Its earliest (known) form is the Latin *cultura*, meaning tilling. In English, this meaning of "culture" subsists in "agriculture" and "cultivation". Besides the literal agricultural meaning of the word, it was also used metaphorically in *cultura animi* (e.g. in Cicero's *Tusculan disputations*) as an individual process of intellectual development. This metaphorical use of *cultura* resurfaces in the 17th century in the work of (a.o.) Hobbes and Bacon. Interestingly, "culture" is not the only agricultural analogy related to learning and intellectual development. The verb to "learn" itself comes from old-Germanic *leis* and/or Latin *lira*, both meaning furrow. One of the nicest examples of these agricultural analogies can be found in Bacon's *The advancement of learning* (1605), wherein he uses the phrase 'the Georgics of mind', referring to Vergilius *Georgica*, an ancient handbook on (types of) agriculture (den Boer 2001b).

Throughout the 17th and 18th century, the concept of "culture" was used mainly as an abbreviation of *cultura animi*, as an alternative to German *Bildung* (in the 19th and 20th century it was sometimes still used in this sense). "Culture" in this sense was an individual process of intellectual development, but could also refer to accomplishments in this process. A "cultured man" was a well-educated, erudite man.

According to Guadarrama González (1999), 'a partir de Kant el concepto de cultura (...) se manejaría fundamentalmente como liberación de la necesidad natural' (p. 61). Indeed culture as *Bildung* can be interpreted as such, but this concept is essentially similar to *cultura animi* which predates Kant by nearly two millennia. Moreover, even the traditional agricultural meaning of the concept could be interpreted as a *liberación de la necesidad natural*. While Guadarrama was wrong pointing at Kant as a dividing line, he is right in his assessment that culture has been interpreted as liberation from natural necessity. This includes the late 18th century introduction of "culture" as a social category. As such, the concept was originally an analogy to *Bildung* or *cultura animi*. It was the application of these labels for individual development, for the individual liberation from natural necessity to the – recently discovered – social world (see § 3.2.2).

The introduction of culture as a social category in the end of the 18th century may, however, have been a reintroduction. The very first use of *cultura* as a social category is traced by Hirsch (1925) to Pufendorf (1672). In later German sources (e.g. Niederman 1941; Fisch 1991) this is reproduced uncritically. However, Pufendorf used the concept only in a very limited number of occasions and without any emphasis. Moreover, as Pufendorf's work predates the invention of 'the social' (see § 3.2.2), he can only be credited for the introduction of culture as a social category if he is credited for the introduction of the idea of a separate social world as well. Pufendorf's concept of *cultura* is more political institutional than social, however. He used it to refer to more modern rather than primitive or 'natural' states (or political institutions in general). Furthermore, as it was not the Latin version of his work, but the French translation, in which Pufendorf's dichotomy *cultura - statu naturalis* was translated as *société civile - état naturel*, which was widely read (in the far less influential German translation, *cultura* was translated as *Bürgerlicher stand*), Pufendorf had no influence whatsoever on the genesis of "culture" as a social category (Den Boer 2001b).

The first *influential* use of "culture" as a social category can be found in the work of the German philosopher of history Herder (1784-91), who was strongly influenced by Montesquieu (e.g. Spitz 1955). "Culture" was a key concept in Herder's thought. According to Herder, different peoples have different cultures, which only blossom in the area where that people (that culture), 'belongs'. Cultures develop in stages as 'eine Kette der Kultur' (p. 408), but not as a calm stream, 'sondern vielmehr [wie] den Sturz eines Waldwassers von den Gebirgen' (p. 410). This development can neither be stopped, nor return to its origins: 'Wir schwimmen weiter; nie aber kehrt der Strom zu seiner Quelle zurück, als ob er nie entronnen wäre' (p. 413). It is an inevitable and irreversible process of development to a common higher *Humanität*. Interestingly, in this utopian perspective, the Enlightenment belief in progress returns. Nevertheless, Herder was one of the founding fathers of the Counter-Enlightenment and of nationalism.

The concept of "culture" in the Counter-Enlightenment and Romanticism referred to a worldview based on difference, tradition and irrationality rather than universalism and reason. The resulting dialectic of culture and civilisation as worldviews and spheres of social reality is the subject of section 3.4. The terms of "culture" and "civilization" were, however, not universally regarded as referring to completely distinct 'things'. In 1871, Tylor, for example, published the most widely quoted definition of "culture" (see also § 3.4.2):

Culture or Civilisation, taken in its ethnographic sense, is that complex whole which includes knowledge, belief, art, morals, law, custom, and any other capabilities and habits acquired by man as a member of society. (p.1)

Most later definitions, operationalisations and interpretations seem to be special cases or elaborations of Tylor's definition (see § 4.2); at least, they do not deviate fundamentally

from the Tylerian definition (e.g. Peterson 1979; Brumann 1999). Even fashionable variants of the concept such as "mass culture" and "organisational culture" all seem to be special applications of "culture" in a more or less Tylorian sense.

Besides the use of the concept to refer to an individual's intellectual development (*cultura animi*) or to 'that complex whole' (Tylor), it has also been used to refer to the (fine) arts. "Culture" in this sense is the whole of the artistic repertory of a society. Although this branch of the conceptual tree sprung of the same stem, that of *cultura animi*, it is completely unrelated to the interpretation of "culture" as a social category. Confusingly, however, the field of cultural economics deals with the economics of culture and the 'cultural industry' in this sense, not with the relationships between culture as a social factor and the economy. Similarly, several scholars wrote on economic threats to culture as 'the arts'. These writings and cultural economics, however, are not part of the CED, neither is the concept of "culture" as the (fine) arts relevant to the conceptual history (and analysis in general) of the CED.

Some adherents to traditional interpretations of "culture" as a process of individual intellectual development or as the most profound achievements (in their opinion) of a society (including the arts) are appalled by the modern anthropological notion of "culture". Fairly recently, for example, Lasky (2002), in a hilariously elitist defence of the traditional view on "culture", attacked Tylor's notion of "primitive culture":

Culture by very definition *could not* be primitive; it was among the highest achievements of mankind. It was not merely descriptive but prescriptive; it was evaluative, judgmental. It called attention to standards of tested excellence in art, music and literature, and even to humanist aspirations in social behavior. (p. 74)

Recently, Busche (2000) distinguished four basic meanings (*Grundbedeutungen*) of "culture": (1) 'das *formgebend veredelnde Bearbeiten und Pflegen natürlicher Anlagen*' (p. 70) as in the classical interpretation; (2) culture as the *product* of (good) education and personal development (*Kultur, die man hat*; p. 76); (3) culture as the characteristic traditions, institutions, ways of life and thought in which peoples and periods are different from each other (*Kultur, in der man lebt*; p. 77); and (4) culture as the products of arts, philosophy and science, that can be created and worshiped. Some five decades earlier, Eliot (1948) attempted to reconcile the different interpretations of "culture". He regarded development to be the key aspect of "culture" and distinguished three senses of the concept depending on whether it refers to 'the development of an *individual*, of a *group* or *class*, or of a *whole society*' (p. 21). "Culture" in the traditional sense refers to the first of these, while Herder's concept of "culture" refers to the latter. The different senses of culture are, though irreducible, not completely independent: 'the culture of the individual cannot be isolated from that of the group, and (...) the culture of the group cannot be abstracted from that of the whole of society' (Eliot 1948, p. 24) (see also Sapir 1924).

Until the 1880s in Germany and the 1910s in English-speaking countries (*e.g.* Stocking 1968; Kalmar 1987), "culture" was never used in the plural. Culture was considered to be a more or less singular process of development or as a stage therein. Gradually the evolutionary or developmental aspect of the concept eroded, leaving a bewildering variety of "cultures", all of equal value to the modern anthropologists (see § 3.4.2).

3 / 3 / 2 / the onomasiology of "culture"

While semasiology points out unrelated and often non-relevant concepts with the same label, such as "culture" as the (fine) arts, onomasiology researches concepts with a more or less similar meaning but a different label. There are (at least) four such concepts in the history of "culture". These are the Medieval Latin concepts of *gens* and *natio* and the 19th century derivative thereof: "race"; and the 19th century German concept of *Volksgeist*.

The concepts of *gens* and *natio* were used widely since the early Middle Ages. Both were translated as (a.o.) race, nation, people, tribe, family – sometimes even in the space of a single work. The concepts of *gens* and *natio* were associated with (or even defined as) descent, customs, language and law. While descent was essential in Medieval thought on *gens* and *natio*, there was an important and consistent emphasis on the socio-cultural aspects of the concepts and on the influence of environment thereon (see § 3.6.1). (Bartlett 2001). With the replacement of Latin with the native language of scientific writers, the terms *gens* and *natio* had to be translated. As there were no obvious candidates in most languages, this was a slow and messy process. Several alternatives were used, including "people", "nation" and "race" (*e.g.* Sommer 1984). In the 16th century this led to phrases such as the "Christian race" and the "race of good men" (Sommer 1984, p. 141). After the introduction of "culture", these terms were still used, mainly because they all developed different connotations (including the concept of "culture" itself, which was closely linked to the Counter-Enlightenment and Romanticism and to (German) nationalism).

Notwithstanding these different connotations, the concept of "race" was in the 19th century widely used to mean a range of things similar to that what the concept of "*gens*" was used to denote before. The concept referred to (a.o.) people, mankind, class, or any other kind of social group (*e.g.* Schank 2000). In 1839, for example, the newly founded French *Société Ethnologique* distinguished the following elements of the study of race(s): 'l'organisation physique, le caractère intellectuel et moral, les langues et les traditions historiques' (quoted: Conze 1984, p. 157). The concept of "race" was (still) only rarely used in the modern biological (genetic) sense. The concept's closest modern relative is "culture". Indeed, the 19th century concept of race could be best described as 'culture plus descent', in which descent, moreover, seems to be optional.

Ignoring the fact that the meaning of concepts like "race" change results in strange (but often understandable) misconceptions. Moore (1974), for example, concluded that Marx was a racist on the basis of a small number of wrongly interpreted quotes and fragments

including Marx's claim (in volume three of *Das Kapital*) that race co-determines the structure of society (see § 3.4.1). A quick comparison with the terms used in more or less the same claim in other writings of Marx and Engels shows that the concept of "race" was used by Marx in the traditional 19th century sense, as an equivalent of culture. (Possibly Marx used "race" because he wanted to avoid the Romanticist and (German) nationalist connotations of "culture". Of course, he could not foresee the direction in which the concept of "race" would further develop and the misunderstandings that could rise therefrom.) (See also § 3.4.1 and Paul 1981.)

Slowly, the concept of "race" became a biological category. In the work of Nietzsche at the end of the 19th century it still had its traditional meaning (Schank 2000). Thirty years later, Hitler (1925) wrote: 'Die Rasse aber liegt nicht in der Sprache, sondern ausschließlich im Blute' (p. 342). This complete victory of the biological interpretation of "race" and its political counterpart in racism made the concept rather unpopular in social science. At the end of the twentieth century the concept was not just unpopular, but also proven (nearly) irrelevant to social science, as it seems to be the case, that the biological concept of "race" is inapplicable to human beings (e.g. Latter 1980; Zuckerman 1990):

Many studies have demonstrated that roughly 90 percent of human genetic variation occurs within a population living on a given continent, whereas 10 percent of the variation distinguishes continental populations. In other words, individuals from different populations are, on average, just slightly more different from another than are individuals from the same population. (Bamshad & Olson 2003, p. 52)

Much earlier, Goldenweiser (1924) argued that most of the peculiarities that are considered to be the effect of race 'are likely to be resolved into purely historical or cultural determinants' (p. 129). Nevertheless, "race" was abolished in social science in favour of the more politically correct "culture" only fairly recently (e.g. Teillet Roldán 1997) and seemed to experience a revival in American anthropology in the 1990s (Wade 2002). (This should not come as a surprise as the United States are, and always were, obsessed with race and racial differences. However, in the United States, "race" and "culture" are continuously confused. In many surveys, for example, answering categories on the question of the race of the respondent include "Latino" or "Hispanic", which are clearly cultural, ethnic or linguistic rather than (biological) racial, besides more obvious categories such as "white", "black", "Asian", etc. (e.g. Betancourt & Regeser López 1993).)

Despite the fact that the biological interpretation of the term "race" became dominant in the 20th century, the older and broader meaning of group in general is far from extinct. After making insulting public statements on Islam and/or the Arabic world, French writer Houellebecq (in 2001) and English TV-presenter Kilroy-Silk (in 2004) were accused (a.o. by Muslim groups) of being racist, which seems to imply that a religion is a race. For historical reasons, the most amusing use of the term "race" comes from a 2003 letter to Dutch newspaper *de Volkskrant* in which a concerned mother writes that, unfortunately, the

nazis are not an 'extinct race' (Verhoeven 2003). (On the history of the concept of "race" see also Malik 1996; on the relationship between culture and biology in the history of science see also Delisle 2000.)

The concept of *Volksgeist* was introduced by Lazarus and Steinthal in the 1860s and was based on (or, at least, inspired by) the philosophy of Herder (e.g. Spitz 1955). Lazarus and Steinthal founded *Völkerpsychologie*, a predecessor of cross-cultural psychology (see § 3.5.2 / 5.2.1). *Volksgeist* was a very modern concept in the sense that it did not refer to a teleological process of development of nations or persons (see § 3.3.1) but to the law-governed behaviour and development of inner activity (Lazarus & Steinthal 1860). *Volksgeist* included language, thoughts, convictions, mythology, religion, cult, oral literature, writing, built structures, industrial products, and art forms (Lazarus & Steinthal 1860; Lazarus 1865). 'With only minor adjustments it would be quite easy to turn this [the concept of *Volksgeist*] into a thoroughly modern view of culture as an interpretive, symbolic system' (Kalmar 1987, p. 679).

3 / 3 / 3 / summary

The concept of "culture" developed from tilling through the metaphorical *cultura animi*, meaning individual intellectual development, into its modern usage referring to a condition or state of a society. "Culture" as a social category is relatively new, but some similar concepts have been used before. These include *gens*, *natio* and *Volksgeist*. The first two were used in medieval Latin and can be translated as 'culture plus descent'. In the 19th century they were often translated as "race", which at that time was also used as 'culture plus descent'. The 19th century German concept of "*Volksgeist*" was nearly synonymous with the modern concept of "culture".

3 / 4 / culture, civilisation and economy

The relationship between the concepts of "culture" and "civilisation" in the 19th and early 20th century was not just one of dialectical opposition. As mentioned in subsection 3.3.1, in some interpretations the concepts were (almost) synonymous or overlapped at least. During the 19th century, there was a gradual shift in the meaning and connotations of the concept of "civilisation", especially. This shift made the concept increasingly worse-fitting as a label in the 19th and 20th century forms of the CED. Hence, it had to be replaced. One option for replacement was the use of neologisms such as Marx's "base" and "superstructure", but the changing meaning of the concept of "economy" provided a more

acceptable candidate. Around the turn of the century, "economy" started to replace "civilisation" in the CED. However, contrary to "civilisation", "economy" was (like "culture") not a neologism, but a term with a history of its own.

This section describes the development of culture - civilisation dialectic (§ 3.4.1); the merger of "culture" and "civilisation" and the introduction of economy in evolutionary anthropology in the second half of the 19th century (§ 3.4.2); and the semasiological history of "economy" (§ 3.4.3).

3 / 4 / 1 / culture versus civilisation

The culture - civilisation dialectic that appeared at the end of the 18th century was initially a conflict of worldviews. On one side, there was the Enlightenment view of man and society, based on universalism and reason; in the opposing camp, there was the Counter-Enlightenment of (a.o.) Vico and Herder, which was strongly anti-universalistic (and mostly anti-rational). The Enlightenment slogan of progress, rationality and universalism was summarised in the concept of "civilisation". The Counter-Enlightenment, on the other hand, used "culture" as its catchword for tradition, diversity, 'natural' development, and the like. In the 19th century, however, the dialectic would radically change in character. It was no longer a dialectic of worldviews or theories of social reality. Instead, it referred to phenomena, aspects or parts of social reality itself. The culture - civilisation dialectic, however, is far more complex than a simple dichotomy. Whether the concepts were opposed, juxtaposed, overlapping or even synonymous was dependent on their context and – most of all – on their connotations.

As described in subsection 3.2.2, the concept of "civilisation" was – more or less – the social equivalent of reason in the Enlightenment. After the heyday of the Enlightenment, the concept's meaning began to change slowly into a number of interrelated directions. It was most commonly used in a number of ways:

- (1) to describe a process of the social and intellectual development of nations;
- (2) as a label for the stage therein reached by the Western world during the Enlightenment, hence as a label for the institutions, values and practices most common in the West;
- (3) as a label for the Western world itself; and
- (4) to describe the aspects of social reality, most closely associated with reason: technology, economy, and the products thereof.

The distinction between the normative interpretation of the concept (as in 1 and 2) and its more descriptive form (as in 4) is not a very hard one. In most of the attempts to determine what constitutes a civilisation, hence, in the discussion on the application of the normative concept, aspects of civilisation as a descriptive concept play a central role:

Trousers and Bibles – these surely are unmistakable indices of civilization! They are only two, however, of a very long list that could be put together; and each index would reflect, in part at least, the culture in which it was proposed. Among these indices one would find an extraordinary variety, including language, literacy, law, soap, paper, the wheel, money, government, religion, science, agriculture, the city, commerce, print, the domestication of animals, the breeding of cattle, the use of milk, the digging stick, the use of the fork, plumbing, dental caries, and even the dry martini. Another list would contain such moral virtues as kindness, charity, compassion, order, discipline, toleration, and the emancipation of women. Stendhal identified civilization with the invention of love: 'On ne trouve qu'un amour physique et des plus grossiers chez les peuples sauvages ou trop barbares.' Still another list would accent, in reverse, the absence of such vices as war, cruelty, violence, dogmatism, fanaticism, ignorance, and superstition. The sociologist Edward Cary Hayes remarked in one of his books that 'Three meals a day are a highly advanced institution. Savages gorge themselves or fast.' A contemporary historian also prefers to date the dawn of civilization from the time when men first learned to make provision for the future, when they learned to remedy a situation that had hitherto been either feast or famine. (Bierstedt 1965, pp. 488-9)

To the list Bierstedt himself adds:

a simple and yet I think objective criterion that can serve as an index of civilization. It has to do with sophistication in a *sophisticated* sense of the word. It concerns the self-reflection and self-criticism and other-awareness in which it can be said that the members of a civilized society indulge. (...) an uncivilized society has art but no aesthetics, religion but no technology, techniques but no science, tools but no technology, legends but no literature, a language but no alphabet (or ideographs), customs but no laws, a history but no historiography, knowledge but no epistemology, and finally a *Weltanschauung* but no philosophy. (p. 490)

After its introduction in the end of the 18th century, the concept of culture was generally used in three (or four – if the third is split up) different, but related, ways:

- (a) as a label for pre-Enlightened stages in the development of nations;
- (b) as a label for non-Western institutions, values and practices; and/or
- (c) to describe the aspects of social reality most closely associated with spirit rather than reason, the aspects generally considered to be (at least partially) irrational and/or traditional:
 - (c₁) 'ways of life', habits and customs, practices and (traditional) norms and values; and/or
 - (c₂) the fine arts.

These different interpretations and connotations of the concepts suggest a number of dichotomies or dialectics of the concepts, which indeed can be found throughout the 19th century and onwards:

- (i) the Enlightened world versus the pre- (or Counter-) Enlightened world (or society based on reason vs. society based on passion and tradition) (2 vs. a);
- (ii) the West versus the rest (3 vs. b);
- (iii) the rational vs. the spiritual aspects of society (4 vs. c): economy and technology versus tradition and passion; economy versus the fine arts; etc.

Besides these – more or less – dichotomous relationships, there have been (and are) others. One of the most widespread *non-dichotomous* conceptualisations, exemplified in the first quote from Bierstedt (1965) above, makes use of (c₁) and (2). In this view culture is a way of life, while civilisation is a specific level in the development or evolution of this way of life. The difference between this non-dichotomous view and (i) is that in the former, civilised nations have culture too, while in the latter, in (i), nations have *either* culture *or* civilisation.

Although the three dialectics mentioned are strongly interrelated, not all of them are relevant to the development of the CED. The first and second are side-tracks rather than the main road. The same is true for the economy - fine arts dialectic (see also § 3.3.1). The main road connects the reason - passion dialectic of the Enlightenment with the modern CED and the modern concepts of culture and economy. This road is that of the dialectic of civilisation as (4), the rational aspects of social reality, and culture as (c₁), the spiritual, irrational, traditional, and so forth aspects thereof. This 'main road', however, was a winding road, at many place connecting to the side-tracks and often plagued by conceptual confusion. (Although most of the side-tracks slowly disappeared into the void, sometimes they suddenly reappear. In Kockel (2002b), for example, a variant of (i) (2 vs. a) can be found in the claim that 'peripheries are rich in culture (whereas centres tend towards civilisation)' (p. 234).)

Throughout most of the 19th century, these dialectics, however, were rarely the subject of empirical research or theory formation. There is an extensive literature on the negative influences of the economy on the fine arts, but that is of little interest here. There seem to be three important theoretical developments in the CED in the 19th and early 20th century, all of them German. The first was Marx's and Engels's 'historical materialism' in the middle of the 19th century. The second was late 19th and early 20th century German Romanticism. The third was the publication of Weber's (1905) *Die Protestantische Etik und der "Geist" des Kapitalismus*. The first two of these are dealt with in this subsection, Weber's and similar works are the subject of subsection 3.5.1.

The dominant usage of the concepts of "culture" and "civilisation" in Marx's times were (a) or (b) and (2) or (3) respectively. In other words, "civilisation" mostly referred to (the stage of social and intellectual development of) the West and "culture" to (the stage of development of) the rest. In the *Manifest der Kommunistische Partei* (Marx & Engels 1848,

p. 466) "civilisation" is used in this sense and Mill, for example, used the term more or less as a synonym to "industrialisation" (e.g. Williams 1959). To Marx and Engels, "civilisation" was more or less synonymous to "capitalism", which is nicely illustrated by Engels's (1884) claim that: 'die Grundlage der Zivilisation [ist] die Ausbeutung einer Klasse durch eine andere Klasse' (p. 171). Because of this dominant use and connotation of "civilisation", and the related use and connotation of the concept of "culture", these terms were hardly applicable in a theory on interaction between economy and other aspects of society. Hence, in their theory of *historical materialism*, Marx and Engels introduced new terms: "base" and "superstructure".

Historical materialism was the first grand theory of the CED (Weber's was the second; see § 3.5.1). It grew from Montesquieu's *Esprit des lois* (1748; see § 3.2.2); Hegel's dialectics (1812-6; 1817/30) and philosophy of history (1807; 1837) (itself strongly influenced by Herder); and Saint-Simon's (1817) claim that the development of the means of production determines the political development (e.g. Kolakowski 1976). Montesquieu distinguished a number of (interrelated) aspects of society in what Hegel (1807) later would call a 'totality'. This totality, the nation's character (*esprit*), determines its legal and political shape. Marx elaborated on this idea in his *historical materialism* (not his term). The first statement of historical materialism can be found in the first and second chapter of the *Manifest der Kommunistische Partei*:

Bedarf es tiefer Einsicht, um zu begreifen, daß mit den Lebensverhältnissen der Menschen, mit ihren gesellschaftlichen Beziehungen, mit ihrem gesellschaftlichen Dasein, auch ihre Vorstellungen, Anschauungen und Begriffe, mit einem Worte auch ihr Bewußtsein sich ändert? Was beweist die Geschichte der Ideen anders, als daß die geistige Produktion sich mit der materiellen umgestaltet? (Marx & Engels 1848; p. 480)

According to historical materialism, societies develop through a complex pattern of successive stages into a utopian final state (which is a clear reflection of the rather utopian notion or ideal of *progress* that was central to both the Enlightenment and (parts of) the Counter-Enlightenment (such as in Herder's 'Kette der Kultur', see § 3.3.1)). This development takes place through adaptation to technological and economic changes. Hence, economic and technological change drives socio-cultural change, or in other words: civilisation (or base) determines culture (or superstructure):

In der gesellschaftlichen Produktion ihres lebens gehen die Menschen bestimmte, notwendige, von ihrem Willen unabhängige Verhältnisse ein, Produktions-verhältnisse, die einer bestimmten Entwicklungsstufe ihrer materiellen Produktivkräfte entsprechen. Die Gesamtheit dieser Produktionsverhältnisse bildet die ökonomische struktur der Gesellschaft, die reale Basis, worauf sich ein juristischer und politischer Überbau erhebt, und welcher bestimmte gesellschaftliche Bewußtseinsformen entsprechen. Die Produktionsweise des materiellen lebens bedingt den sozialen, politischen und geistigen

Lebensprozeß überhaupt. Es ist nicht das Bewußtsein der Menschen, das ihr Sein, sondern umgekehrt ihr gesellschaftliches Sein, das ihr Bewußtsein bestimmt. (Marx 1859, pp. 8-9)

Because economy is the driving force in historical materialism, it is often understood as a form of economic determinism. However, this is a gross oversimplification of Marx and Engels's thought. The core of Marx's philosophy was *dialectical materialism* (not his term either). Marx's materialism, although strongly influenced by Feuerbach's more traditional materialism, did not (primarily) refer to matter in a physical sense, but to social reality. In traditional materialism, the material was primary and the ideal (the mind) secondary, a product of the primary matter; in Marxian (historical) materialism, economy (as social matter) is primary (base), and politics, culture, etc. (superstructure) is its (secondary) product. Thus far, this seems to coincide with economic determinism. However, Marxian materialism is dialectical, which implies that there is some kind of reciprocal relationship between the material (base) and the ideal (superstructure):

Der Hauptmangel alles bisherigen Materialismus (den Feuerbachschen mit eingerechnet) ist, daß der Gegenstand, die Wirklichkeit, Sinnlichkeit nur unter der Form des Objekts oder der Anschauung gefaßt wird: nicht aber als sinnlich menschliche Tätigkeit, Praxis, nicht subjektiv. (Marx 1845/88, p. 5)

Die materialistische Lehre von der Veränderung der Umstände und der Erziehung vergißt, daß die Umstände von den Menschen verändert und der Erzieher selbst erzogen werden muß. (Marx, 1845/88, pp.5-6)

Although indeed the material (matter, base, civilisation) determines the ideal (mind, superstructure, culture), this is not one-way traffic: the ideal also influences the (experience of the) material. In its socio-historical adaptation: economy (civilisation / base) determines culture (superstructure), but culture also determines how a society deals with its economic circumstances and changes. 'Es ist nicht, daß die ökonomische Lage Ursache, allein aktiv ist und alles andere nur passive Wirkung' (Engels 1894, p.206; see also Engels 1890). A number of more concrete clues to the influence of culture (superstructure) on economy (civilisation / base) can be found in the works of Marx and Engels. For example, race as a 19th century equivalent of culture (see § 3.3.2) (Marx 1894, p. 800; Engels 1894, p. 206) and cultural differences in entrepreneurship play important roles in the economic development of a nation:

Es ist ein sonderbarer Übergang von den Staaten nach Kanada. Erst kommt's einem vor, als wär' man wieder in Europa, dann meint man, man wäre in einem positiv zurückgehenden und verkommenden Land. Es zeigt sich hier, wie notwendig zur raschen Entwicklung eines neuen Landes der fieberhafte Spekulationsgeist der Amerikaner ist (kapitalistische Produktion als Basis vorausgesetzt) (...) (Engels 1888, p. 93)

Marx has had a great influence on social science. Historical materialism, however, has been understood in very different ways. The orthodox codification by Plekhanov and Lenin led to a purely mechanical interpretation in which the relation between base and superstructure was seen as a strict mechanical causality in which the base determines the superstructure. A number of (mostly Western) Marxists pointed emphatically at the dialectical character of historical materialism. (In section 7.2 historical materialism will be further analysed.)

Contrary to historical materialism, the use of the terms "culture" and "civilisation" in late 19th century and early 20th century German Romanticism posed no problem. In the Romantic view, these concepts were part of a dialectic that combined (i) and (iii) (see above). In other words: "culture" referred to a 'natural', traditional and passionate way of life (and those who lived such lives) unspoiled by "civilisation", technology, science, economy and other products of the Enlightenment. This was hardly a new idea. Rousseau (1755), for example, claimed one-and-a-half centuries earlier that Enlightened society deformed human nature and alienated people from each other and themselves.

Romanticism was extremely influential in 19th century German thought. Its influence is obvious in Marx's social philosophy, which aims at the dissolution of alienation rather than inequality (as is usually assumed). Alienation, was the result of the transfer from culture to civilisation in the Romantic interpretation of these terms:

Die Bourgeoisie, wo sie zur Herrschaft gekommen, hat alle feudalen, patriarchalen, idyllischen Verhältnisse zerstört. Sie hat die buntscheckigen Feudalbande, die den Menschen an seinen natürlichen Vorgesetzten knüpften, unbarmherzig zerrissen und kein anderes Band zwischen Mensch und Mensch übriggelassen als das nackte Interesse, als die gefühllose 'bare Zahlung'. (Marx & Engels 1848, p. 464)

At the end of the 19th century, the dichotomy became much stronger under the influence of German nationalism. The letter C in "culture" was replaced with K in order to make the term (*Kultur*) look more German, and gradually an ideology was constructed that idolised passionate heroes (see e.g. the works of Wagner or Nietzsche), the countryside, and das Völkische (literally: 'the popular'; the concept refers to traditional folk culture). Civilisation and the things associated with it, such as cities, science and reason, on the other hand, were rejected. After the First World War, this ideology culminated in two important books: Spengler's (1918-23) *Untergang des Abendlandes* and Hitler's (1925) *Mein Kampf*. The latter is the more illustrative (and the more interesting) of the two.

Hitler (1925) used the term "civilisation" less than ten times, while he used "culture" more than a hundred times. He rejected civilisation in favour of culture as the 'true level of spirit and life':

Eine der ersichtlichsten Verfallserscheinungen des alten Reiches war das langsame Herabsinken der allgemeinen Kulturhöhe, wobei ich unter Kultur nicht das meine, was man heute mit dem Worte Zivilisation bezeichnet. Diese scheint im Gegenteil eher eine Feindin wahrer Geistes- und Lebenshöhe zu sein. (p. 282)

As typically representative of German (nationalistic) Romanticism, Hitler rejected cities, science and reason (in one word, Enlightenment) in favour of *das Völkische*:

Der völkische Staat muß dabei von der Voraussetzung ausgehen, daß ein zwar wissenschaftlich wenig gebildeter, aber körperlich gesunder Mensch mit gutem, festem Charakter, erfüllt von Entschlußfreudigkeit und Willenskraft, für die Volksgemeinschaft wertvoller ist als ein geistreicher Schwächling. (p. 452)

The first Romantic rebellion resulted in the introduction of the concept of "culture" by Herder. It also gave birth to nationalism and conservatism. The second Romantic rebellion combined these and resulted ultimately in national socialism and the Second World War. In recent decades, the social sciences experienced a third Romantic rebellion in the form of post-modernism. The similarities between the three rebellions are clearly visible: a focus on difference rather than universalism and a strong distrust of the products of the Enlightenment, most of all of reason and/or modern science and technology. (A very interesting comparison of German fascist and post-modernist views of science can be found in Holton (2000).)

Outside Germany the distinction between "culture" and "civilisation" was far less sharp. In scientific writings the concepts were often considered to be more or less synonymical, although there were very different connotations corresponding to the different meanings at the beginning of this section. Very briefly put, "civilisation" was associated more with the rational aspect of social reality (economy and technology), while "culture" was associated more with the spiritual aspect (values, passions and traditions) (e.g. Merton 1936; den Boer 2001b). The concepts of "culture" and "civilisation" were used most prominently in the rising field of anthropology.

3 / 4 / 2 / culture and civilisation in evolutionary anthropology

The Enlightenment and Counter-Enlightenment reached a synthesis in 19th century anthropology. The antithesis of Enlightenment *universalism* and Counter-Enlightenment *difference* was dialectically *aufgehoben* (see § 2.5.2) in the notion of evolution or development, itself related to the utopian (or eschatological) belief in progress in both Enlightenment and Counter-Enlightenment. According to *evolutionary anthropology*, the development of *civilisation* was *universal*; *different* nations or cultures (often also labelled

"civilisations"; see § 3.3.1) are merely in *different stages* of this universal development or evolution. The early anthropologists Lubbock, Tylor, and Morgan, in forwarding this theory, were strongly influenced by similar ideas on universal development presented earlier by some philosophers, especially Vico (1725/44) and Herder (1784-91), both representatives of the Counter-Enlightenment.

The main works of evolutionary anthropology (e.g. Lubbock 1870; Tylor 1870; 1871 Morgan 1877) were all published within two decades after the publication of the other important influence on the field: Darwin's, *the origin of species* (1859). The evolutionary anthropologists, however, were no strict adherents to Darwinian evolution. They preferred the term "development" over "evolution" and were more inspired than influenced by the theory of biological evolution. Only Lubbock referred to Darwin in rare occasions. It seems that Darwin's main contribution to evolutionary anthropology was the fact that he made public opinion ripe for other evolutionary theories (Murphree 1961). The other great theorist of evolution, Spencer, on the other hand, wrote extensively on the evolution of culture and institutions (e.g. 1876), but only after the important works of evolutionary anthropology were published. In this respect Spencer was probably influenced by evolutionary anthropology more than he influenced it (see also Tylor 1877).

Evolutionary anthropology was based on the convictions that all men are biologically and psychologically the same and that all cultural groups are subject to the same evolutionary development, which cannot be reversed. To the evolutionary anthropologists, progress was inseparable from cultural evolution (Murphree 1961). This was nicely summarised by Lubbock and Tylor:

[D]ifferent races in similar stages of development often present more features of resemblance to one another than the same race does to itself, in different stages of its history. (Lubbock 1870, p. 7)

[T]he wide differences in the civilization and mental state of the various races of mankind are rather differences of development than of origin, rather of degree than of kind. (Tylor 1870, p. 372)

In evolutionary anthropology, "culture" and "civilisation" were synonymous. As the field was heavily influenced by Enlightenment universalism, the concept of "civilisation" was widely used to describe the whole of practices, values, institutions, and so on of different nations or societies. Tylor's definition of "culture" and/or "civilisation", quoted before in subsection 3.3.1, describes these synonymous concepts as 'that complex whole which includes knowledge, belief, art, morals, law, custom, and any other capabilities and habits acquired by man as a member of society' (1871, p.1).

Of the evolutionary anthropologists, Morgan is by far the most important in the history of the CED. Morgan claimed that the 'complex whole' of culture was built on an economic

foundation. In *Ancient society* (1877), Morgan described how economic circumstances determine cultural development. The economic circumstances themselves were mainly determined by technological development; hence, in the end, technology drives cultural progress. Morgan explained the introduction and evolution of forms of government, the family and (private) property all as consequences of economic and technological changes. Morgan strongly influenced Engels, who more or less rewrote *Ancient society* in historical materialist terms as *Der Ursprung der Familie, des Privateigentums und des Staats* (1884).

In the late 19th century, the evolutionary anthropologists' use of the terms of "culture" and "civilisation" as synonyms became standard practice in Western science (except in Germany). Hence, "civilisation" as the catchword of the rational aspect of society, as culture and economy, had to be replaced. "Economy" was an obvious candidate. However, "economy" has a semasiological history of its own, which shows that it gained its current (dominant) meaning only fairly recently.

3 / 4 / 3 / the semasiology of "economy"

According to Say (1803), classical antiquity was utterly ignorant of the nature, origin, distribution and effect of wealth. More to the point, classical antiquity lacked the concept of "economy". The term "economy", however, was used since the 4th century BC at least, but its meaning has changed considerably in the almost two-and-a-half millennia thereafter. The term was introduced in Greek Antiquity as "οικονομία", a contraction of the noun "οίκος", meaning (a.o.) house, room, family and household, and the verb "νέμειν", meaning (a.o.) to organise, distribute, manage and use (e.g. Finley 1973; Spahn 1992). (It is often wrongly assumed that the last part of the term comes from the noun "νόμος", meaning habit, custom, tradition or rule (and often translated as law), which is obviously wrong as the Greek οικονομία was used to refer to the management (νέμειν), rather than to the rule (νόμος), of households (οίκος).)

Zenophon used a variant of the term: "οικονομικός", usually translated as household, as a book title in the middle of the 4th century BC. This book was a guide to the gentleman landowner about the proper management of his estate. Similarly, the book *oeconomica* that, although written by two of his students was included in the 1921 edition of the works of Aristotle, consisted of two parts: the first dealing with the establishment and management of a household (including tips on how to pick a wife), the second dealing with (a.o.) the management of the state (Whitaker 1940). "Economy" then meant management or organisation. The concept was applied to the household and the state, the only two levels of social organisation recognised (see § 3.2.2). The application to the management of the state, however, was (still) relatively rare. The part on economy in this sense in the pseudo-Aristotelian *oeconomica*, for example, was only six paragraphs long (Finley 1973).

Throughout Antiquity and the Middle Ages, the concept of "economy" was used almost exclusively to describe good management and/or organisation of the household (e.g. Finley 1973; Oexle 1992; Burckhardt 1992). The concept was, however, sometimes also used as a general synonym for "organisation". In the church, for example, the concept was used to refer to the order or organisation of hymns and psalms during a mass, and Quintilian used it to refer to the plan (or organisation) of a poem. Both these meanings of "economy" persisted. In 1736 Quesnay published his *Essai physique sur l'économie animale* on the organisation of the animal kingdom. In 1742 Hutcheson published his *Short introduction to moral philosophy* (the English translation was published in 1747). Book 3 hereof, 'the principles of oeconomics and politics', dealt with marriage and divorce, the obligations of parents and children, the management of a household or family in general, and with politics. The topics of property, contracts and money were discussed in book 2, 'Elements of the law of nature', and clearly had nothing to do with "oeconomics" (Finley 1973). (Interestingly, Quesnay later became a physiocratic economist and published a book titled *Tableau économique* in 1758 and Hutcheson was probably the most important teacher of Adam Smith.)

The first use of the term "economy" as the management or organisation of the state after the six paragraphs in the – before mentioned – pseudo-Aristotelian *oeconomica*, was in 17th century France. It was, however, solely used in the compound term "political economy" and referred to the political organisation of the state only. Influenced by the growing literature on trade, money and national wealth, in the second half of the 18th century the term "political economy" came to mean something more specific: the management of state affairs regarding money and wealth. (e.g. Finley 1973; Burckhardt 1992)

Under the influence of the late 18th century social, political and conceptual revolutions (see also §§ 3.2 and 3.2.2), the invention of 'the social' specifically, the concept's meaning evolved further in the nineteenth century. "Political economy" no longer primarily referred to the management of the state, but to the economic institutions and organisation of society. Say (1803) was probably the first to state that politics and political economy are independent sciences with different subjects. Only at the end of the 19th century, however, the adjective "political" was dropped. (Later, the compound "political economy" became more or less a synonym of Marxism.) The first influential use of "economy" in this sense was Marshall's (1890) *Principles of economics*. Nevertheless, the 19th century interpretation of "economy" as a specific part of the institutional arrangement of society remained dominant until the Second World War:

The word "economy" has become one of the most elastic in the vocabulary of science. It means the whole system of industry and business whereby a modern population sustains existence. It means the production and distribution of wealth. It also means the total phenomena of wants and satisfactions. (Giddings 1903, p. 449)

In modern usage the term "economy" rarely refers to this 19th and early 20th century meaning as institutions regarding production, consumption and distribution (a division of the economy first proposed by Say (1829)), it is mostly used to refer to the whole of productive, consumptive, and so forth *behaviour* (or in case of "the economy", to the set of actors that can execute these types of behaviour). Most obvious expressions of "economy" in this modern sense can be noted in the fact that the size of an economy is measured by GDP, and an economy's growth by the growth of GDP. GDP itself is defined in the *System of national accounts* (SNA) as 'the final result of the production activity of resident producer units' (ISWGNA 1993, 2.171). SNA implicitly defines "economy" as aggregate monetary transactions or behaviour.

Mitchell (1998) describes the last stage in the conceptual evolution of "economy". It started with the introduction of terms as "economic society" (Keynes 1936), "economic life" and "economic community" (Tinbergen 1937) to refer to the complex whole of relations, networks and types of behaviour related to production, consumption, and so forth. From these new terms, in the 1940s and 50s the new concept of "economy" evolved. Most important catalyst therein was the Second World War. After the war, nations needed a new way to grow. As the territory of the world was completely divided, territorial growth was impossible without military conflict, which was (more or less) banned. A new notion of "economy" solved the problem: nations could grow economically. This, however, required the reconceptualisation of "economy". The economy as institutional organisation cannot grow; the economy as aggregate productive (and consumptive) behaviour can.

The new notion of "economy" had profound influence on politics. In the millennia before the Second World War, kings, lords and politicians were primarily concerned with political power; the first two with their own, the last also with their nation's. After the war, the economy became the prime concern of the politicians. Politics was and is no longer primarily about national (political) power, but about national wealth and the increase thereof by means of economic growth.

The development of "economy" from synonym of "organisation" to its modern meaning(s) slowly made it a much more fitting label for the rational side of the CED. In the 19th century, "political economy" still referred to the institutional organisation of a part of society. Hence, Marx, for example, could not use the concept in historical materialism, the first grand theory of the CED. Instead, he used the neologism "base". Nevertheless, as the science of "political economy" was built on Enlightenment universalism and rationalism (see § 3.2.2), this institutional organisation was considered to be the product of reason. Hence, the (political) economy was part of civilisation.

With the change in meaning of "civilisation" in social science (see § 3.4.2), it moved away from its Enlightenment origins and from its meaning of the rational part of social reality. "Economy", on the other hand, evolved in the opposite direction, especially after the Second World War. Already in the 19th century it was heavily influenced by rationalism, but after the war, "economy" became almost synonymous with 'aggregate (rational) productive, consumptive and distributive behaviour'.

3 / 4 / 4 / summary

In the 19th century the concepts of "culture" and "civilisation" developed from opposites to near synonyms. In the beginning of the century, the CED was interpreted in a number of ways ranging from the West against the rest to the rational or material versus the spiritual parts or aspects of society. The latter interpretation gave rise to the first grand theory of the CED: Marx and Engels's historical materialism. The most basic (but not the only) claim of historical materialism is that the economic institutions determine the political institutions within a society.

In the second half of the 19th century, the concepts started to grow together, especially in English-speaking countries and in scientific language. In the CED a new concept was introduced: "economy". This concept developed from "organisation", through "political economy", meaning organisation of the state (regarding national wealth), to the modern concept of "economy" as the aggregate of productive, consumptive and distributive behaviour.

3 / 5 / entrepreneurship and dimensions of culture

The beginning of the 20th century was a time of rising interest in the figure of the entrepreneur and in entrepreneurship. Entrepreneurship and the CED were quickly connected in theories and studies on cultural influences on entrepreneurship. This section deals with the introduction of theories of cultural influences on entrepreneurship and economic growth and the history of the concepts of "entrepreneur" and "entrepreneurship" (§ 3.5.1); and with the introduction of 'dimensions of culture' into the CED in the late 20th century (§ 3.5.2).

3 / 5 / 1 / culture and entrepreneurship

The second grand theory of the CED and the *locus classicus* for the influence of culture on entrepreneurship was Weber's (1905) *Die Protestantische Etik und der "Geist" des Kapitalismus*. Most of Weber's book is on Protestant theology and the concept of "*Beruf*" (profession) and its etymological relation (in German and Dutch) to *rufen* and *berufen* (to call or to appeal). According to Weber, Protestant asceticism favours a rationalist and systematic approach to life. Moreover, a *Beruf* (profession) is an assignment from God. (More or less similar in etymology and meaning are the English concepts of "vocation" or "calling".) This resulted in the Protestant work ethic and a strong inclination to self-employment and entrepreneurship.

Tawney (1926) argued that it was not Protestantism, but individualism that produced the 'spirit of capitalism'. Individualism, not Protestant doctrine, led to the rationalisation of industries and markets. Tawney's rather than Weber's theory seems to be confirmed by the historian Macfarlane (1978). Thirteenth century sources suggest that the English were much more individualist than the people(s) on the European continent. It was this individualism, which produced English wealth and ultimately the industrial revolution. The Reformation did not take place in England until the 16th century. Hence, Protestantism, like capitalism, seems to be a product of individualism rather than its cause. (On Weber, Tawney and similar theories, see also § 7.3.)

After Weber, the concepts of the "entrepreneur" and "entrepreneurship" became central concepts of and in the CED. As is the case with "culture" and "economy", there are no universally accepted definitions of these concepts, but there is a long and complex conceptual history (e.g. Jaeger 1990). The French noun *entreprendre* was already used in the 12th century and from it, in the 15th century, the concept of "entrepreneur" evolved. In the 16th century an *entreprise* usually was some kind of violent or war-like action. Hector and the Trojans were called "entrepreneurs" (Hoselitz 1951; Jaeger 1990). In the late 16th and early 17th centuries the term gained new meaning as 'a person who entered into a contractual relationship with the government for the performance of a service, or the supply of goods' (Hoselitz 1951, p. 194). An important aspect of this newer use of "entrepreneur" was that it was used to refer to someone whose activities imply some kind of risk (to himself). This notion of risk became the key aspect of Cantillon's concept of the "entrepreneur" in the early 18th century (Redlich 1949; Hoselitz 1951). Cantillon was also the first to divide the population into entrepreneurs and employees (*gens à gages*) (Redlich 1949).

In English, a number of alternative translations of "entrepreneur" coexisted. Most widely used were "undertaker" and "projector", but "adventurer" or "merchant adventurer" was also often used (Hoselitz 1951; Jaeger 1990). Before the industrial revolution, people we would now call entrepreneurs were mostly called "projectors". Projectors were regarded to be adventurers, schemers, cheats or speculators and were widely distrusted. However, this started to change at the end of the 17th century (Redlich 1949; Hoselitz 1951). In the 18th century "undertaker" became the more common concept to refer to a businessman (Hoselitz 1951). Adam Smith (1776), for example used the concept to refer to investors of capital. (Nowadays the English concept of "undertaker" is used almost exclusively for the arrangers of funerals, while the originally French term "entrepreneur" took its place in English.)

Theorists of entrepreneurship have distinguished a number of aspects of the "entrepreneur", which were differently emphasised by different theorists (e.g. Casson 1982; 1987; Gartner 1990; Morisson 1998; van Praag 1999). Three of those – risk, profit and management – clearly derive from its conceptual history: entrepreneurs took risks in order to get profit and entrepreneurs were managers. What they did manage, however, changed considerably: war-like actions in the 16th century, building projects in the 17th century and businesses in the 18th century and later. Smith (1776) added the use or investment of capital as a further

characteristic. A fifth aspect of entrepreneurship, the creative or innovative aspect, is often attributed to Schumpeter (1926), but was already present in the late 18th century writings of Jeremy Bentham (*e.g.* Redlich 1949). It seems, that for any combination of these five aspects of entrepreneurship, there is at least one theorist who claims that these are its basic characteristics.

3 / 5 / 2 / dimensions of culture

The two grand theories of the CED, historical materialism and the influence of religious ethic on entrepreneurship, provided the starting point for an explosion of theories of the CED, especially after post-modernism (the third Romantic rebellion; see § 3.4.1) and its focus on diversity rooted in social science. The resulting late 20th century 'cultural turn' made it fashionable to point at culture whenever traditional theories and explanations failed (for an overview, see chapter 7). What needs to be explained here is the 'final' development of the concepts of the CED, especially of "culture".

The most influential late 20th century theories and research on the CED are based on Hofstede's (1980) measurement of cultural differences between fifty-three (groups of) countries. These measurements themselves are based on the conceptualisation of "culture" in cross-cultural psychology as basic values. Inkeles and Levinson (1954), for example, discuss three dimensions of culture: (1) self-image, which is about both male - female and individual - group relationships; (2) how people deal with authority; and (3) how people deal with conflict and emotion. Kluckhohn and Strodtbeck (1961) distinguish five dimensions: (1) human nature orientation; (2) man - nature orientation; (3) time orientation; (4) activity orientation; and (5) relational orientation. In his empirical research, Hofstede (1980) found and constructed (how much he found and how much he constructed is open for debate) four dimensions, which seem to be most similar to Inkeles's and Levinson's: (1) power distance; (2) individualism; (3) masculinity; and (4) uncertainty avoidance. Later, Hofstede (1991) added a fifth: (5) long-term orientation. (See § 6.2.1 for a more extensive review of the history of and dimensions proposed and measured by cross-cultural psychology.)

Whatever the number of dimensions distinguished, the basic idea stays the same: culture is a relatively small set of basic value orientations that can be measured and mapped. This interpretation is interesting for at least two reasons. First of all, it is far more restrictive than the anthropological definitions of culture, that, like Tylor's (quoted above) seems to cover (almost) everything. Because it is more restrictive, it is also far less ambiguous. Secondly, the interpretation of culture as basic values opens up a whole new way to interpret the CED. The CED then is no longer just about the rational versus the non-rational aspects of social reality: it is or may be also about actual behaviour (remember that "economy" can mean aggregate productive and consumptive behaviour; § 3.5.1) versus the values, rules, and the like that guide behaviour. Section 5.2 further investigates this idea.

3 / 5 / 3 / summary

Rising interest in entrepreneurship gave birth to the second grand theory of the CED: that of cultural influences on entrepreneurial behaviour. In the second half of the 20th century especially, empirical research herein grew quickly under the influence of new ideas on the measurement of culture. These ideas and measures originated from cross-cultural psychology. The best known and most widely used were (and are) Hofstede's measures of four dimensions of culture in fifty-three (groups of) countries. These 'dimensions' are – according to cross-cultural psychologists – the most basic characteristics of culture.

3 / 6 / culture, nature and geography

In Houellebecq's (1998) novel *les particules élémentaires* one of the two main characters, not coincidentally with the same first name as the author, Michel, suggests that

(...) prise dans son ensemble la nature sauvage n'était rien d'autre qu'une répugnante saloperie; prise dans son ensemble la nature sauvage justifiait une destruction totale, un holocaust universel – et la mission de l'homme sur la Terre était probablement d'accomplir cet holocauste. (pp. 47-48)

What disgusts Michel about nature is its complete lack of reason. Like his creator, Michel believes in reason and Enlightened civilisation and he is repulsed by the lack thereof in nature, in the quotation above, or in religious fundamentalism, in *Plateforme* (Houellebecq 2001).

Houellebecq's quotation clearly links the culture - nature dichotomy to the 19th century culture - civilisation dialectic. However, the terminology is completely different. "Culture" here refers to 'that complex whole' as in anthropology (§ 3.3.1 / § 3.4.2), but its focus is not on the spiritual, the traditional, the irrational but rather on the practical, material and/or rational aspects. "Culture" is used here as in Barth (1897) as the domination of man over nature, and hence, it explicitly includes economy and technology. The culture - nature dichotomy is a dialectical opposition of two sets of terms or concepts, some more ambiguous than others:

$$\left\{ \begin{array}{l} \text{culture} \\ \text{man (-kind)} \\ \text{society} \end{array} \right\} \text{ vs. } \left\{ \begin{array}{l} \text{nature} \\ \text{environment} \end{array} \right\}$$

Terminologically different versions of this dialectic (or dichotomy) are used in different fields, but all refer to the same basic distinction: that of "nature" as the non-human (or untouched by man), non-rational world that surrounds us, and that of "culture" as the world of man. The field that more than any others made the dialectic of culture and nature, of man and environment its prime subject is (human) geography. In classical geography, there was no room for the CED as "man" or "culture" covered both sides. One could argue that the CED is a minor dialectic within a man - environment (or culture - nature) dialectic (hereafter abbreviated MED). However, in the 20th century the geographical mainstream forgot its intellectual history, forgot about the man - environment dialectic and became a sterile discipline about abstract space(s). The late 20th century cultural turn re-introduced culture in geography. This time, however, the CED conquered the field and the traditional man - environment dialectic (MED) became its subordinate at best.

This section deals with the development of thought on the MED from Classical Antiquity until classical (with a lower case c) geography in the 19th and early 20th century (§ 3.6.1) and with the recent (re-)introduction of "culture" and the CED in geography (§ 3.6.2).

3 / 6 / 1 / the two histories of geography

Textbooks on the history of ideas in geography (*e.g.* de Pater & van der Wusten 1996; Sutcliffe 1999; Holt-Jensen 1980/99) all reveal an almost complete lack of actual (theoretical) ideas (which rather contradicts the term "history of ideas") until the beginning of the 19th century. The history of geography as a discipline is represented as one of exploration and description of other countries and regions, not as a history of theoretical ideas. Often regarded as the first geographer, Strabo wrote his *Geographika*, an encyclopaedic description of the rituals, means of survival and military strength of all the known peoples in and outside the Roman Empire around the start of the Christian era. Other early predecessors often mentioned include Erathostenes, Chang Ch'ien and Ptolemy (*e.g.* Sutcliffe 1999). After Classical Antiquity, the history of geography continues with explorers such as Al-Idrisi (12th century), Ibn Battuta (14th century) and dozens of European explorers in the 15th and 16th centuries (*e.g.* Sutcliffe 1999). Only in the early 19th century did there seem to awake some theoretical thought in human geography (in physical geography, theory took off in the 17th century) in the work of Ritter (1817), who claimed that the environment determines man, but that man can struggle out of nature's grasp. What the textbook writers (usually) ignore is that Ritter's theory had many predecessors.

There seem to be two histories of geography. The first is the textbook history of explorers and encyclopaedic descriptions of countries and regions, which Ptolemy called 'chorography'. This is the history of geography as an art more than as a science. The second is the often neglected history of ideas and theories on the relationship between man

(people) and his (their) environment, between culture and nature. This is the history of the MED. This is the true history of geographical ideas.

The first (known) theorists of the MED, probably were Hippocrate (5th century BC) and Aristotle (4th century BC). Hippocrate (*Airs, waters and places*) and Aristotle (*Politics*) believed that the physical geography of a place determines the characteristics, the way(s) of life, of the people in that place (e.g. Bartlett 2001). Hippocrate wrote that 'in general you will find assimilated to the nature of the land both the physique and the characteristics of the inhabitants' (quoted in Bartlett 2001, p. 45). This was the birth of physical (or environmental) determinism that would dominate the MED until the end of the 19th century. Hippocrate, often credited to be the father of medicine, therefore, could also be credited to be the father of scientific (as opposed to descriptive) geography.

Physical determinism influenced Medieval Christian and Islamic thought. In the 7th century Isidore of Seville (*Etymologiae*) claimed that 'human beings vary in appearance and colour, in size of body and quality of mind, according to the skies above them'; and Albertus Magnus wrote in his *De natura locorum* (13th century), one of the first systematic treatises on the MED, that 'everything generated in a place derives its natural properties from that place' (both quoted in Bartlett 2001, p. 47). The general idea in Medieval Christianity was that the natural environment determined the *gens* (see § 3.3.2 on the concept of *gens*).

Although some early Medieval Christian scholars, such as Isidore of Seville, wrote on the MED, the main historical route from Antiquity to more modern times goes through Medieval Islamic philosophy, especially the works of Ibn Sina (Avicenna) and Ibn Kaldun (e.g. Goldenberg 1999). Many of the works of Greek Antiquity, including those by Aristotle, were unknown to the early Medieval Christian world. Only in the times of the crusades and through the dissemination of Spanish Islamic philosophy did Europe learn about these. This strongly influenced Western philosophy and gave birth to empiricism and ultimately the Enlightenment. On the Islamic Enlightenment, on the other hand, the crusades had a severely negative impact. (The downfall of Islamic civilisation cannot be attributed to the impact of the crusades alone, however, but was also caused by internal events such as Al-Ghazali's (1095) influential attack on philosophy and rationalism.)

During his travels through Arabic countries Chardin (1680/6) came in contact with Ibn Kaldun's (14th century) thought on the MED. He wrote about it on his journal, which was published in 1680 (second revised edition 1686). Montesquieu read this and was strongly influenced by it (Goldenberg 1999). As explained in subsection 3.2.2, Montesquieu in his *De l'esprit des lois* (1748) forwarded the theory that the nature or spirit of a society (or culture) is the result of (a.o.) physical geography, psychology, traditions, history, religion and the economic mode of being. Several chapters of his book are devoted to the influence of, for example, climate and soil on the character of the people living in these climates and on those soils.

Physical determinism was well established in 18th and 19th century thought. There is no reason to assume that Ritter read Montesquieu, Aristotle or any of the other earlier theorists of the MED. (He was, however, strongly influenced by Herder (*e.g.* Birkenhauer 2001), who *did* read Montesquieu; see § 3.3.1.) He did not have to; the influence of the natural environment on man was obvious to every learned man. Ritter, however, was not a physical determinist in the strict sense. Indeed, he claimed that man is 'ein lebendiger Spiegel der Natur von welchem ihre Geheimnisse zu seines Gleichen noch einmal wiederholt und verständlicher ausgesprochen werden' (1817, p. 19), but he also wrote that civilisation makes man ever more independent from nature:

So ergeben sich diese und andre Resultaten über den innigsten zusammenhang der Völkergeschichten mit der lebenden Natur, indem von der einen Seite eine unabwendbare Abhängigkeit von derselben sich zeigt, die um so fesselnder, je näher der Mensch noch dem bewußtlosen Zustande steht und die Völker als Horden leben. Von der andern Seite dagegen zeigt sich ein immer fortschreitendes Freiwerden der Culturvölker von den in gleicher Progression immer mehr und mehr zurücktreenden Bedingungen der vaterländischen Naturen. (pp. 18-19)

Sixty-five years after Ritter, Ratzel (1882), the founder of modern geographical physical determinism, almost literally copied the determinist element of his thought. Culture, according to Ratzel, is a reflection of nature in the human mind (or spirit). However, in the second half of the 19th century, increasing industrial pollution gave birth to the opposite of physical determinism. Marsh wrote *man and nature* (1864) as 'a little volume showing that whereas [others] think that the earth made man, man in fact made the earth' (quoted in Lowenthal 1964, p.ix). In his book, Marsh described the enormous influence of man on the face of the earth:

But it is certain that man has done much to mould the form of the earth's surface, though we cannot always distinguish between the results of his action and the effects of purely geological causes; that the destruction of the forests, the drainage of lakes and marshes, and the operation of rural husbandry and industrial art have tended to produce great changes in the hygrometric, thermometric, electric, and chemical condition of the atmosphere, though we are not yet able to measure the force of the different elements of disturbance, or to say how far they have been compensated by each other, or by still obscurer influences; and, finally, that the myriad forms of animal and vegetable life, which covered the earth when man first entered upon the theatre of a nature whose harmonies he was destined to derange, have been, through his action, greatly changed in numerical proportion, sometimes much modified in form and product, and sometimes entirely extirpated. (p.18)

Although Marsh had some influence, for example on the geographer Réclus (1869), by the turn of the century physical determinism dominated geography. Ratzel's most important

students were Semple and Huntington. Semple (1911) asserted that people are a product of their environment and Huntington (1915) researched the influence of climate on a people's level of civilisation.

Rejecting physical determinism, Hettner (1907) claimed that environment or nature does not determine man but offers him possibilities. This idea was elaborated on by (a.o.) the historian Febvre, who coined the term "possibilism":

Et ce dogme, c'est un dogme ratzélien: "Si l'espace considéré est limité et peu différencié, le type physique et la civilisation qui s'y rencontrent sont monotones." – Nous disons, nous, tout différemment:

Cadres régionaux, au sens large du mot, soit. Mais, dans l'ensemble de conditions physique qu'ils représentent, ne voyons que des possibilités d'action. Et, ajoutons-le tout de suite, pour prévenir une objection qui se présente d'elle-même: ces possibilités d'action ne constituent pas une sorte de système lié: elles ne représentent pas dans chaque région un tout indissociable: si elles sont saisissables, elles ne sont pas saisies par les hommes toutes à la fois, avec la même force dans le même temps: autrement, à quoi tendrait le procès que nous prétendons instituer contre le déterminisme? et, sous une autre forme, la valeur déterminante des régions géographiques n'apparaîtrait-elle point comme très réelle? – En fait, dans ce domaine comme ailleurs, la vieille formule leibnizienne est utile à retenir – que tous les possibles ne sont pas compossibles. (1922, pp. 206-207)

Possibilism replaced determinism by reciprocity. Hettner (1927) and Vidal de la Blache (1921) argued that man and nature cannot be separated. 'Zur Eigenart der Länder gehören Natur und Mensch, und zwar in so enger Verbindung, daß sie nicht von einander getrennt werden können' (Hettner 1927, p. 126). To Vidal de la Blache these strong reciprocal ties between man and environment or nature were especially relevant in relatively small regions: *pays*. Each region has a *personnalité géographique*, a specific and characteristic pattern of culture, mentality, means of subsistence and landscape, which is the product of centuries of reciprocal relations between a group of people and their environment. The *genre de vie* of this group determines which of the possibilities offered by the environment is chosen. This choice in turn influences the landscape (and the *genre de vie* itself):

Un genre de vie constitué implique une action méthodique et continue, partant très forte, sur la nature, ou pour parler en géographe, sur la physionomie des contrées. (Vidal de la Blache 1911, p. 194).

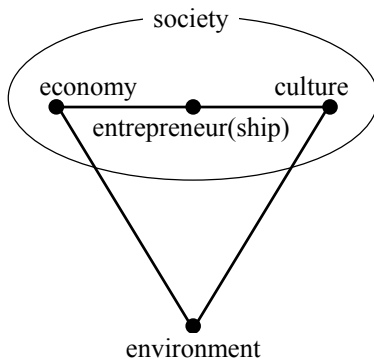
One more geographer (besides Hettner and Vidal de la Blache) took part in the possibilist turn of early 20th century geography: Sauer, who was strongly influenced by Schlüter, introduced 'cultural landscape geography' (1925). The key concept thereof was the "cultural landscape", the product of reciprocal relations between man and nature:

The cultural landscape is fashioned from a natural landscape by a culture group. Culture is the agent, the natural area is the medium, the cultural landscape the result. Under the influence of a given culture, itself changing through time, the landscape undergoes development, passing through phases, and probably reaching ultimately the end of its cycle of development. With the introduction of a different – that is, an alien – culture, a rejuvenation of the cultural landscape sets in, or a new landscape is superimposed on remnants of an older one. The natural landscape is of course of fundamental importance, for it supplies the materials out of which the cultural landscape is formed. The shaping force, however, lies in the culture itself. Within the wide limits of the physical equipment of area lie many possible choices for man, as Vidal never grew weary of pointing out. This is the meaning of adaptation, through which, aided by those suggestions which man has derived from nature, perhaps by an imitative process, largely subconscious, we get the feeling of harmony between the human habitation and the landscape into which it so fittingly blends. But these, too, are derived from the mind of man, not imposed by nature, and hence are cultural expressions. (Sauer 1925, p. 343)

Interestingly, in these early 20th theories of the MED, not only the MED itself but also the CED is dissolved. In Vidal de la Blache's "*genre de vie*" and Sauer's "cultural landscape", culture and economy are merged into a single concept. Most explicit is Sauer's claim that the cultural landscape 'is the geographic version of the economy of the group, as providing itself with food, shelter, furnishings, tools, and transport' (Sauer 1941, p. 358).

Taking the "*genre de vie*" and the "cultural landscape" back apart and combining them into a single framework may either result in two dialectics in which the CED is a dialectic within the "man" or "society" aspect of the MED (with entrepreneurship somewhere in the middle; see § 3.5.2) or in a trichotomy of economy, culture and environment (or nature). Figure 3.1 can (and may) be interpreted in both these ways.

figure 3.1: *a triangle of combined dialectics*



In 1953, Schaefer's article 'exceptionalism in geography' was published posthumously. It was an attack on the regional geography or chorography (see above) that grew from the works of (a.o.) Vidal de Blache and Hettner and a call for a more 'scientific' (here meaning more nomothetic rather than ideographic) approach in geography. Economic geography especially was heavily influenced by Schaefer's criticism. New approaches, such as regional science and spatial analysis, constructed mathematical models of the influence of distance on location, for example. Space was conceived of as an isotropic plane and man was replaced by *homo economicus*. There was no more place for the traditional key concepts of geography, "landscape", "environment", "culture", and so forth. In fact these new approaches had very little to do with geography (or with classical geography at least).

The geographer no longer needs to ponder whether he should study human phenomena just as thoroughly as physical phenomena, but increasingly he will be faced with a question just as ridiculous. One can foresee the time when a geographer who thinks in terms of the landscape and the real earth's surface will be considered very old fashioned. With the increasing interest in horizontal interaction, in systems, in spatial relationships, and the use of models and mathematics to analyse them, the landscape is becoming just a nuisance to some new geographers. Many of the hypotheses, simple models and even complex formulae will only apply to a flat, featureless surface. Time and again an isotropic surface is postulated at the beginning of the work. (Minshull, 1970, pp.55-56)

3 / 6 / 2 / the CED in modern geography

In the 1970s, criticism on the non-geographical geographies of the 1950s and 60s grew steadily. Under the influence of Marxism and humanism, and later post-modernism, new approaches in geography arose. "Culture" was re-introduced in geography. However, with it came the CED. Traditionally there was no strong line of demarcation between culture and economy in geography. The distinction was irrelevant and hence ignored. The re-introduction of "culture" in geography was not a return to classical geography, however. Instead it was heavily influenced by theories and philosophies from outside geography. One of the strongest influences in the 1970s (*e.g.* Crang 1997) and especially one of the most important theoretical foundations of the CED in modern geography came from Marxism. In the following decades Marxist approaches (often called "political economy") almost took over the field: 'By 1990 political economy was the dominant discourse of human geography influencing debate, research and the very sociology of the discipline' (Barnes, 1995, p.423). And 'political economy became hegemonic; it became human geography's official culture' (p. 424). With Marxism, historical materialism, the first grand theory of the CED, entered geography; with it came the associated conceptual framework. Within a few decades, geography experienced two conceptual revolutions. The first reduced environment (the "E" in the MED) to an isotropic plane, effectively removing it from the

MED; the second divided "man" (the "M" in the MED) into "culture" and "economy". Hence, although classical geography was mortally wounded in the 1950s, it was Marxism, which delivered the final blow.

The founding father of Marxist geography was Harvey, who developed a geographical version of historical materialism in which, besides culture (in general), places, landscapes and regions are the products (or superstructure) of the economic base of society (Harvey 1982, 1989). Initially, Harvey's work (1973) was purely Marxist, but slowly this changed. In later work (1989; 1996) his philosophy became increasingly *post-Marxist*. (Harvey's later dialectics, for example, was no longer based on Marx and Hegel but on Leibniz and Whitehead (Harvey 1999).) Similarly, Soja (1989) developed from Marxism to post-Marxism, which in his case is an attempt to mix Marxism and post-modernism. In the 1990s, post-Marxism, as a mix of post-modernism and Marxism, was the main source of inspiration for a new approach in economic geography, alternatively named the cultural turn (Crang 1997), the new economic geography (Thrift & Olds 1996), or the Californian school (Sunley 1996). Some of these names are rather misleading. The first also refers to a far broader development in social science that, moreover, started well before the 1990s. The second is better known as a field in economics based on the work of Krugman (1991; 1995). Krugman's new economic geography is nothing but a return to 1950s spatial analysis. Hence, it has little to do with geography. It is a nice example of economic imperialism (e.g. Caldwell 1986) and is heavily criticised by (some) geographers (e.g. Martin 1999).

Post-Marxist economic geography's influences are wider than just Marxism and post-modernism. A third major influence that should be mentioned involves *heterodox* currents within economics such as institutional and evolutionary economics (e.g. Brons & Pellenbarg 2003). Especially influential was Granovetter's (1985) notion of "embeddedness" (see also § 7.5.1). Scott and Storper (1992), for example, argue that the economy is embedded in a socio-cultural context. Other key concepts include "learning" (e.g. Florida 1997; Morgan 1997; Storper 1997) and "network" (e.g. Saxenian 1994).

Marx's historical materialism was not the only grand theory of the CED that entered geography after the rejection of spatial analysis. The second grand theory, that of the influence of culture on economic development, slowly established itself in the discipline, but has hardly been empirically researched. This may be related to the fact that "culture" as an explanative factor of regional differences in entrepreneurship is only called for when more traditional explanations fail. On one of the last pages of a geographical study on new firms, Bleumink *et al.* (1985), for example, suggest that less tangible factors, such as mentality, might be important. Almost twenty years earlier Tamsma (1967) claimed that cultural differences play an important role in the (re-) production of regional economic differences.

Regional differences in entrepreneurship in the Netherlands have been studied since the beginning of the 1980s. Wever (1984), for example, studied regional differences in the

number of new entrepreneurs, while Kleinknecht and Poot (1990) focused on regional differences in innovation. In both cases and in later studies on the same subject (*e.g.* van Praag 1996; Bruins *et al.* 2000; see also § 7.4.2) traditional explanations were insufficient. Brons (2002; 2004) was probably the first attempt to empirically verify cultural influence on entrepreneurial behaviour in the Netherlands. This study, however, resulted in more questions than it answered.

3 / 6 / 3 / summary

Figure 2.4 (§ 2.5.3) showed that the CED is closely linked to the culture - nature or man - environment dialectic (MED). The latter is the defining question of the field of (human) geography. From Greek Antiquity until well into the 19th century it was generally assumed that environment or nature determined *gens*, national character, culture or society. Only at the end of the 19th century and the beginning of the 20th did this change. Possibilism asserted that there is a complex reciprocity between man and his environment that – more or less – comprehends the CED.

In the 1950s and 60s geography became explicitly abstract, mathematical and non-cultural. This started to change in the 1970s and led to the 'cultural turn' of the 1990s. This cultural turn, however, was not a return to the traditional conceptual and theoretical framework of (classical) geography; instead geography adopted the framework of the other social sciences and with this, adopted the CED.

chapter 4

INTENSIONAL MAPPING

Culture is the suggestion, from certain best thoughts, that a man has a range of affinities through which he can modulate the violence of any master-tones that have a droning preponderance in his scale, and succor him against himself. Culture redresses this imbalance, puts him among equals and superiors, revives the delicious sense of sympathy, and warns him of the dangers of solitude and repulsion.

Ralph Waldo Emerson 1910, p. 136

It [culture] includes all the characteristic activities and interests of a people: Derby Day, Henley Regatta, Cowes, the twelfth of August, a cup final, the dog races, the pin table, the dart board, Wensleydale cheese, boiled cabbage cut into sections, beetroot in vinegar, nineteenth-century Gothic churches and the music of Elgar.

T.S. Eliot 1948, p. 31

4 / 1 / introduction

The preceding chapter described the history of the main concepts of the CED and their onomasiological predecessors. In terms of the methodology proposed in section 2.7, the sections 3.2 to 3.5 described $\mathcal{H}_{\text{culture}}$ and $\mathcal{H}_{\text{economy}}$ and section 3.6 described the history of the related man - environment dialectic (MED). This chapter continues the mapping of "culture" and "economy" but changes the focus to \mathcal{S} , the set(s) of concepts onomasiologically and semasiologically related to "culture" and "economy" respectively.

Specification of \mathcal{S} is specification of the different forms, interpretations, definitions, and so forth of the concept within different contexts. This is more problematic for one pole of the CED, for the concept of "culture", than for the other. While "economy" is a relatively (!) straightforward concept, "culture" is extremely ambiguous and has been defined in a myriad of ways. 'Almost anything human could be, and at some point has been used as the basis for a definition of culture' (Bohannan 1973, p. 358).

The following sections deal with definitions of "culture" and elements, parts or aspects thereof (§§ 4.2 and 4.3); the intensional mapping of "culture" (§ 4.4); the definition and mapping of economy (and other concepts of the non-cultural pole of the CED) and the (intensional) relationships between the concepts within the CED (§ 4.5); and, finally, some notes towards the conceptual reconstruction in the next chapter (§ 4.6).

4 / 2 / "culture": definitions and interpretations

The concept of "culture" has been debated throughout the 20th century. The most important discussion probably took place in the 1930s and 1940s and culminated ultimately in Kroeber and Kluckhohn (1952). Later discussions (e.g. White & Dillingham 1973; Smith 2000; Hofstede 2001; see also O'Hear 1998; Schweder 2001) have had far less scientific impact and most of the interpretations of "culture" were already put forward in the 1940s or earlier. Hence, Kroeber and Kluckhohn (1952) seems to be the most appropriate starting point for the analysis of "culture". Kroeber and Kluckhohn provided a brief description of the history of the concept, a list and analysis of the most important definitions, and commented on the most important theoretical statements on (the concept of) culture. They described approximately 35 interpretations of "culture" in the historical section of their book and listed 176 definitions and 130 statements on the meaning of the concept of culture. Some of the most important definitions quoted by Kroeber and Kluckhohn are repeated below and some more (mainly newer) are added. This chronological list of definitions and interpretations is the raw material for an analysis of aspects of the concept of "culture". (Of course this list is not an arbitrary sample of definitions of culture or even intended to be; it is merely intended to show the variation in interpretation of the concept.)

concepts of "culture"

- C1 Culture is the application of skilled human activity to transform non-human, non-cultural nature. (agriculture, horticulture, etc.; see § 3.3.1)
- C2 *Cultura animi*, culture or *Bildung* is a process of individual development and education. (see § 3.3.1)
- C3 A *gens* is a social group bound together by customs, language, law and descent. (see § 3.3.2)
- C4 The *spirit* of a society arises from the interrelationships between social phenomena, morals habits, social institutions and laws. (Montesquieu 1748; see also § 3.2.2)
- C5 Culture is a process of development of nations. (Herder 1784-91; see § 3.3.1)
- C6 Culture is a pre-Enlightened stage in the development of nations. (see § 3.4.2)
- C7 Culture is a label for non-Western practices, values and institutions. (see § 3.4.2)
- C8 The *superstructure* of a society includes the legal and political institutions; the social, political and spiritual processes of life; social being and social consciousness. (Marx 1859; see § 3.4.2)
- C9 The concept of *Volksgeist* refers to the law-governed behaviour and development of inner activity. *Volksgeist* includes language, thoughts, convictions, mythology, religion, cult, oral literature, writing, built structures, industrial products, and art forms (Lazarus & Steintal 1860; Lazarus 1865; see § 3.3.2).

- C10 'Culture or Civilisation, taken in its ethnographic sense, is that complex whole which includes knowledge, belief, art, morals, law, custom, and any other capabilities and habits acquired by man as a member of society.' (Tylor 1871, p.1)
- C11 The evolutionary anthropologist regarded culture to be a 'cumulative social legacy'. (Murphree 1961, p. 278; see § 3.4.2)
- C12 Culture is man's domination of nature; culture includes economy and technology. (Barth 1897)
- C13 'the total equipment of technique, mechanical, mental, and moral, by use of which the people of a given period try to attain their ends' (Small 1905, p. 344)
- C14 'That which distinguishes men from animals we call culture.' (Ostwald 1907, p. 510)
- C15 'a culture is a definite association complex of ideas' (Wissler 1916, p. 197)
- C16 Culture is the whole of the arts, philosophy and religion. (Spengler 1918-23)
- C17 'the socially inherited assemblage of practices and beliefs that determines the texture of our lives' (Sapir 1921, p. 221)
- C18 'Culture may be defined as *what* a society does and thinks.' (Sapir 1921, p. 233)
- C19 'culture is technically used by the ethnologist and culture-historian to embody any socially inherited element in the life of man, material and spiritual. Culture so defined is coterminous with man himself' (Sapir 1924, p. 402)
- C20 Culture is 'individual refinement'. (Sapir 1924, p. 403)
- C21 "Culture" 'aims to embrace in a single term those general attitudes, views of life, and specific manifestations of civilization that give a particular people its distinctive place in the world.' (Sapir 1924, p. 405)
- C22 "'culture' (...) is what remains of men's past, working on their present, to shape the future' (Myres 1927, p. 16)
- C23 'the sum of men's adjustments to their life-conditions' (Sumner & Keller 1927, p. 46)
- C24 'that part of the environment which man has himself created and to which he must adjust himself' (Willey 1927, p. 500)
- C25 'the sum of all activities, customs and beliefs' (Dixon 1928, p. 3)
- C26 'Culture is the sum total of all that is artificial. It is the complete outfit of tools, and habits of living, which are invented by man and then passed on from one generation to another.' (Folsom 1928, p. 15)
- C27 'that complex whole which includes all the habits acquired by man as a member of society' (Benedict 1929, p. 806)
- C28 'the mode of life followed by the community or the tribe' (Wissler 1929, p. 341)
- C29 'Culture is the sum total of the ways of doing and thinking, past and present, of a social group.' (Bogardus 1930, p. 336)
- C30 'the artificial objects, institutions, and modes of life or of thought which are not peculiarly individual but which characterize a group' (Wallis 1930, p. 9)

RETHINKING THE CULTURE – ECONOMY DIALECTIC

- C31 'culture includes all the activities which develop in the association between persons or which are learned from a social group, but excludes those specific forms of behavior which are predetermined by inherited nature' (Hiller 1933, p. 3)
- C32 'Culture is the dissipation of surplus human energy in the exuberant exercise of the higher human faculties.' (Carver 1935, p. 283)
- C33 Culture is a '*system* of "institutions" and "ideas"' about traditions and the assimilation thereof in a group. (Thurnwald 1936, p. 394)
- C34 'the sum total of what an individual acquires from his society (...) as a legacy from the past' (Lowie 1937, p. 3)
- C35 'Culture is to society what personality is to the organism. Culture sums up the particular institutional content of a society.' (Katz & Schanck 1938, p. 551)
- C36 'culture is a man-made or superorganic order, self-generating and dynamic in its operation, a pattern-creating order, objective, humanly useful, cumulative, and self-perpetuating' (Panunzio 1939, p. 106)
- C37 'The term *culture* is used to signify the sum-total of human creations, the organized result of human experience up to the present time.' (Reuter 1939, p. 191)
- C38 'Culture includes everything that can be *communicated* from one generation to another. The culture of a people is their *social heritage*' (Sutherland & Woodward 1940, p. 19)
- C39 'the way in which the people in any group do things, make and use tools, get along with one another and with other groups, the words they use and the way they use them to express thoughts, and the thoughts they think' (Sears 1940, pp. 78-9)
- C40 'Culture consists of traditional ways of solving problems.' (Ford 1942, p. 555)
- C41 'Culture consists of common and more or less standardized ideas, attitudes, and habits which have developed with respect to man's recurrent and continuous needs.' (Young 1942, p. 35)
- C42 'Culture is all behavior mediated by symbols.' (Bain 1942, p. 87)
- C43 'culture in general as a descriptive concept means the accumulated treasury of human creation: books, paintings, buildings, and the like; the knowledge of ways of adjusting to our surroundings, both human and physical; language, customs, and systems of etiquette, ethics, religion, and morals that have been built up through the ages' (Kluckhohn & Kelly 1945, p. 96)
- C44 'The culture of a society is the way of life of its members; the collection of ideas and habits which they learn, share, and transmit from generation to generation.' (Linton 1945b, p. 203)
- C45 'Culture is (...) a set of ready-made definitions of the situation which each participant only slightly retails in his own idiomatic way.' (Kluckhohn & Kelly 1945, p. 91)
- C46 'the organized repetitive responses of a society's members' (Linton 1945a, p. 5)
- C47 'A culture is any given people's way of life, as distinct from the life-ways of other peoples.' (Kluckhohn & Leighton 1946, p. xviii)
- C48 'Culture may be said to be the common use and application of complex ideas by the members of a social group.' (Feibleman 1946, p. 73)

- C49 'the mass of learned and transmitted motor reactions, habits, techniques, ideas, and values (...). Culture is the special and exclusive product of men, and is their distinctive quality in the cosmos' (Kroeber 1923/48, p. 8)
- C50 'Culture is the man-made part of the environment.' (Herskovits 1948, p. 17)
- C51 Culture 'includes all the characteristic activities and interests of a people: Derby Day, Henley Regatta, Cowes, the twelfth of August, a cup final, the dog races, the pin table, the dart board, Wensleydale cheese, boiled cabbage cut into sections, beetroot in vinegar, nineteenth-century Gothic churches and the music of Elgar.' (Eliot 1948, p. 31)
- C52 'I would define culture as *the individual's or group's acquired response systems*.' (Henry 1949, p. 218)
- C53 'La culture, c'est la manière de vivre du groupe.' (Maquet 1949, p. 324)
- C54 Culture is cultural behaviour. Cultural behaviour is 'all human functioning that conforms to patterns learned from other persons.' (Haring 1949, p. 29)
- C55 'The *culture* of a people may be defined as the sum total of the material and intellectual equipment whereby they satisfy their biological and social needs and adapt themselves to their environment.' (Piddington 1950, pp. 3-4)
- C56 'Culture is generally understood to mean learned modes of behavior which are socially transmitted from one generation to another within particular societies and which may be diffused from one society to another.' (Steward 1950, p. 98)
- C57 "'A culture" refers to the distinctive way of life of a group of people, their complete "design for living".' (Kluckhohn 1951, p. 86)
- C58 Culture consists of symbols, value orientations and convictions regarding the physical world. (Parsons & Shills 1951)
- C59 'Culture consists of patterns, explicit and implicit, of and for behavior acquired and transmitted by symbols, constituting the distinctive achievement of human groups, including their embodiments in artifacts; the essential core of culture consists of traditional (i.e., historically derived and selected) ideas and especially their attached values; culture systems may, on the one hand, be considered as products of action on the other as conditioning elements of further action.' (Kroeber & Kluckhohn 1952, p. 181)
- C60 'the concept of *culture* refers to certain of the qualities displayed by classes of social events which are similar with respect to those qualities' (McNitt 1958, p. 71)
- C61 In cross-cultural psychology, culture is regarded to be a set of basic value orientations. (see § 3.5.2)
- C62 'Culture is not generally considered actual behavior itself, nor need the actual products or artifacts of culture be considered as culture itself. Culture is that which is constructed by inference from behavior and artifacts.' (Sykes 1963, pp. 256-257)
- C63 A cultural system is 'a system of symbols'. (Schneider 1968, p. 1)

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- C64 Culture is best seen as 'a set of control mechanisms – plans, recipes, rules, instructions (what computer engineers call "programs") – for the governing of behavior.' (Geertz 1968, p. 150)
- C65 Culture patterns are 'organized systems of significant symbols'. (Geertz 1968, p. 150)
- C66 Culture is shared; culture is about communication. Culture is the means by which social order is perpetuated. Culture is both about difference and sameness. Culture is both material and ideal. (Boon 1973)
- C67 'an historically transmitted pattern of meanings embodied in symbols, a system of inherited conceptions expressed in symbolic forms by means of which men communicate, perpetuate, and develop their knowledge about and attitudes toward life' (Geertz 1973, p.89)
- C68 'culture is coded in memory, in behavior, in materials, in language, in art, writing, and computers, and (...) the most important thing about culture is that it is always encoded twice – once within the human being, in electrical and chemical form, and once outside the human being in some other form' (Bohannan 1973, p. 357)
- C69 'A culture is the total socially acquired life-way or life-style of a group of people. It consists of the patterned, repetitive ways of thinking, feeling, and acting that are characteristic of the members of a particular society or segment of a society.' (Harris 1975, p. 144)
- C70 'Culture consists of four kinds of symbols: values: choice statements that rank behavior or goals; norms: specifications of values relating to behavior in interaction; beliefs: existential statements about how the world operates that often serve to justify values and norms (...); and finally, expressive symbols: any and all aspects of material culture, from stone axes to swastikas, from the Kula ring to constitutions and cockfights' (Peterson 1979, pp. 137-138)
- C71 'learned systems of meanings, communicated by means of natural language and other symbol systems, having representational, directive and affective functions, and capable of creating cultural entities and particular senses of reality' (D'Andrade 1984, p. 116)
- C72 'Culture influences action not by providing the ultimate values toward which action is oriented, but by shaping a repertoire or 'tool kit' of habits, skills, and styles from which people construct 'strategies of action'. ' (Swidler 1985, p. 273)
- C73 'Culture is a system of attitudes, values, and knowledge that is widely shared within a society and transmitted from generation to generation. While human nature is biologically innate and universal, culture is learned and may vary from one society to another.' (Inglehart 1990, p. 18)
- C74 'Culture (...) is the sharing and transmission of memory, ideology, emotions, life-styles, scholarly and artistic works, and other symbols.' (Iriye 1990, p. 100)
- C75 Culture is 'the software of the mind'; culture is 'the collective programming of the mind which distinguishes the members of one group or category of people from another' (Hofstede 1991, p. 5).
- C76 'The core of culture (...) is formed by *values*' (Hofstede 1991, p. 8).
- C77 'a shared set of ideas, held to be valid simply because they constituted the joint conceptual banks of custom of an ongoing community' (Gellner 1992, p. 18)

- C78 'Culture is a set of human made objective and subjective elements that in the past have a) increased the probability of survival, b) resulted in satisfaction for the participants in an ecological niche, and thus c) become shared among those who communicate with each other because they had a common language and lived the same timeplace.' (Triandis *et al.* 1993, p. 219)
- C79 'Culture is the socially transmitted knowledge and behavior shared by some group of people.' (Peoples & Bailey 1994, p. 23)
- C80 'the systems of shared meanings which people who belong to the same community, group, or nation use to help them interpret and make sense of the world' (Hall 1995, p. 176)
- C81 'The two primary aspects of culture are institutions and technology. Under technology is tools and tool using and warranted or scientific knowledge, instrumental logic. The technological heritage is based upon an instrumental system that is derived from tools and skills. Under institutions is myths, legends, and traditions, and ceremonial or ideological knowledge, ceremonial logic. The institutional heritage is based upon a ceremonial system that is derived from myths, legends, and traditions.' (Bowles *et al.* 1999, p. 407)
- C82 'the clusters of common concepts, emotions, and practices that arise when people interact regularly' (Brumann 1999, p. S1)
- C83 Culture can be defined by twelve features: (1) culture consists of ideals, values, and assumptions about life that people widely share and that guide specific behaviour; (2) culture influences the environment; (3) culture is transmitted from generation to generation; cultural values tend to exist for long periods in a society; (4) culture is based on / learned by childhood experiences; (5) culture is not widely discussed; people rarely talk about cultural influence on their own behaviour; (6) cultures may clash; norms and values from one culture may be inconsistent with the norms and values of another; (7) culture helps people to make sense of reality; (8) cultural values persist even when they became unpractical; (9) people react emotional when cultural norms are violated; (10) cultural norms and values change over time; people may have different attitudes to norms and values in different situations; (11) fast change is difficult; (12) a culture can be summarised in sharp contrasts. (Brislin 2000)
- C84 Culture is man's faculty to use representation(s) to give form, sense and meaning to reality. (e.g. Ankersmit 2001)
- C85 'Culture is a shared interpretive scheme.' (Douglas 2001, p. 3147)
- C86 'culture' refers to community-specific ideas about what is true, good, beautiful, and efficient' (Schweder 2001, p. 3153)

4 / 3 / aspects of "culture"

The definitions and interpretations of "culture" above can be analysed and compared as sets of aspects, elements or components (of "culture"): 'The majority of the definitions in Kroeber and Kluckhohn's volume see culture as a set consisting of identifiable elements and use a noun followed by "of" and an enumeration of the elements to define it (...)' (Brumann 1999, p. S4). Analysing the definitions and interpretations as such shows that – while modern definitions do not deviate fundamentally from the Tylorian definition (*e.g.* Peterson 1979; Brumann 1999) – different weights are assigned to the different elements of culture by different approaches, in different contexts, and in different times (Peterson 1979). A number of aspects of "culture" keeps returning throughout the list. Some of these seem to be more obvious than others. The majority of the definitions on the list, for example, interpret culture as a condition of a social group. This, however, is a relatively modern interpretation (see § 3.3). A small number of concepts (C2, C20, C52) are about individuals rather than social groups and a slightly larger number focussed on processes rather than conditions (C1, C2, C5, C20, C32, C74). Other aspects that keep returning in the list above are:

- (1) culture is human (§ 4.3.1);
- (2) culture is socially learned (§ 4.3.2);
- (3) culture is or guides behaviour (§ 4.3.3);
- (4) culture is or provides meaning (§ 4.3.4);
- (5) culture is about the products of the mind (§ 4.3.4).

Besides these more common aspects of "culture", there are a few rarer ones dealt with in subsection 4.3.5. Subsection 4.3.6, finally, discusses the classification of aspects distinguished in this section.

4 / 3 / 1 / culture is human

Nearly all dictionaries of quotations on the Internet contain an early 19th century quote from Fitzroy James Raglan: 'culture is roughly anything we do and the monkey don't'. Unfortunately, none of these specify the source of the quotation. Nevertheless, it illustrates a general feeling among theorists of culture: culture is 'possessed only by human beings' (Case 1927, p. 906). This view is, however, contested by a number of scientists who describe animal culture. Hart and Pantzer (1925) see culture in birdsong; Vogel (1999), de Waal (2001) and van Schaik *et al.* (2003) find culture with apes (chimpanzees and orangutans); and Rendell and Whitehead (2001) describe culture in whales and dolphins. What all of these have in common is that they interpret (or define) culture as socially learned (or otherwise transferred) patterns of behaviour that are specific to groups of animals, but not to the species as a whole. Wynne (2004) on the other hand, explains that animals do not

need culture to come up with similar solutions for similar problems in similar circumstances.

Whether animals can and do possess culture is a difficult question that may be more about concepts than about humans and animals. There is, however, a further and more fundamental argument against the exclusivity of culture to humanity. This argument is beautifully summarised by Geertz (1968) as: 'men have birthdays, but man does not' (p. 151). The point is that there is no 'mental Rubicon', no sudden break in hominid evolution when man (or one of its predecessors) 'as a member of society' suddenly became able to acquire 'knowledge, belief, art, morals, law, custom', etc. (see C10 above). It took man over a million of years to develop, slowly and gradually, something that could be called culture (e.g. Geertz 1968). (Moreover, it becomes increasingly clear that men and apes are far more similar than often assumed; see e.g. Wildman *et al.* 2003.)

The human appropriation of culture is strongly related to the culture - nature dichotomy. The same boundary that distinguishes culture from nature, distinguishes humans from animals. Geertz's argument, however, not only undermines the exclusivity of culture to humans but also the culture - nature dichotomy. Cultural evolution was strongly related to genetic, biological evolution. 'Our central nervous system grew up in great part in interaction with culture' and, hence, 'without men, no culture, certainly; but equally, and more significantly, without culture, no men' (Geertz 1968, p. 152).

Although many theorists of culture *feel* that the notions of animal culture or early hominid culture 'are needlessly depriving us of our proper domain' (Holloway 1969, p. 47), there seems to be no good reason to restrict culture to humans. The phrase 'culture is human', therefore, is no proper part of a definition of culture.

4 / 3 / 2 / culture is socially learned

The application of the concept of culture to animals described above is mainly based on definitions of culture as socially rather than genetically transmitted behaviour. Indeed, the social transmission of culture seems to be one of its key aspects. Twenty-eight of the definitions and interpretations above state that culture – in some way – is socially learned (see box 4.1).

box 4.1: *culture is socially learned*

C10	C22	C33	C44	C59	C73	C79
C11	C26	C34	C49	C66	C74	C82
C17	C27	C38	C54	C67	C77	C83
C19	C31	C40	C56	C71	C78	C85

Again, this aspect of culture reflects the culture - nature dichotomy. Cultural behaviour is not natural in the sense that it is not determined by biology, but is learned in and from the social group. While not explicitly mentioned in all definitions, the social transmission of culture is probably the only undisputed aspect of the concept's definition. It is probably also the only aspect that was used in a formal definition:

D4.1 "culture" =_{def} { $\alpha \mid \exists x,y \diamond [x \text{ learns } \alpha \text{ from } y \wedge x \neq y]$ } ,

in words: culture is the set of all things learnable (by x from y) (Anderson & Moore 1962; Brownstein 1995; formula adapted to notational standards as specified in § 1.3.2).

4 / 3 / 3 / culture and behaviour

The relationship of culture to behaviour is a complicated one. Peterson (1979) claims that while culture 'was once seen as a map *of* behavior it is now increasingly seen as a map *for* behavior' (p. 159). Whether indeed such a development took place is, however, doubtful. It seems that both interpretations of culture have coexisted. The difficulty is that the concept of "culture" has to steer free from the *Scylla* and *Charybdis* of behaviourism and idealism. A strictly behaviourist interpretation of culture claims that culture is behaviour and ignores everything that determines this behaviour. A strictly idealist position would entail that culture is some metaphysical entity above and determining our actual behaviour. The relationship of culture and behaviour, hence, is related to the ontological status of culture (see also § 4.2.2). Most definitions and interpretations do not go very deeply into the murky waters of metaphysics. Thirty of the definitions and interpretations above, however, give relatively explicit answers on the question whether culture is behaviour or *meta-behaviour*, that which guides behaviour (see boxes 4.2a and 4.2b).

box 4.2a: *culture is behaviour*

C9	C28	C39	C47	C69
C18	C29	C42	C53	C78
C25	C31	C46	C54	C79

box 4.2b: *culture is meta-behaviour*

C17	C55	C61	C66	C72	C78
C36	C57	C62	C70	C75	
C52	C59	C64	C71	C76	

Even if culture is defined as behaviour, the concept refers primarily to the *way* a group does things. "Culture" is not about (behavioural) events themselves, but about the characteristics of these events (McNitt 1958). Culture in this sense, is interpreted as *patterns* of behaviour. Culture as meta-behaviour refers to the *rules* and *institutions* that co-determine or guide behaviour (e.g. Cushner & Brislin 1986/96). Patterns, rules and institutions are referred to in many of the definitions and interpretations on the list (see boxes 4.3a to 4.3c).

box 4.3a: *patterns (ways of doing things: customs, habits, practices, etc.)*

C3	C18	C29	C44	C54	C69	C82
C4	C25	C30	C46	C57	C72	
C7	C26	C39	C47	C59	C74	
C10	C27	C41	C49	C62	C78	
C17	C28	C43	C53	C68	C79	

box 4.3b: *rules (incl. values, norms, attitudes, roles, structures etc.)*

C4	C10	C43	C59	C67	C73	C78
C7	C21	C49	C61	C70	C75	C83
C9	C41	C58	C64	C71	C76	C86

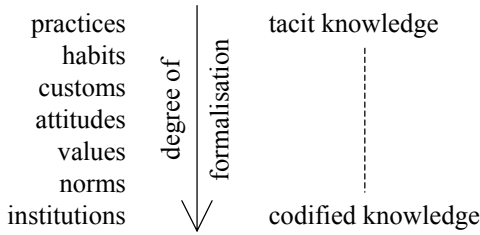
box 4.3c: *institutions (formalised / codified rules, patterns and structures)*

C3	C7	C10	C33	C59	C81
C4	C8	C30	C35	C64	C86

The distinction of the three categories in general may be one of degree of formalisation (or institutionalisation) similar to Polanyi's (1958) distinction of *tacit* and *codified knowledge* (see figure 4.1). The main difference between a habit and a norm, for example, is that the latter is more explicit, more formal. Nevertheless all 'levels' are forms of meta-behaviour: customs are tacit meta-behaviour, while laws (institutions) are extremely formal meta-behaviour. Tacit meta-behaviour is difficult to transfer and difficult to change; while formal meta-behaviour can be enforced and is relatively easily changed. (Note that more formal meta-behaviour is not necessarily more powerful in the (co-)determination of actual behaviour.)

It is not behaviour itself, which the theorist of culture is interested in, but the patterns of and rules for behaviour: the *way* of doing things rather than the *doing* itself. Hence, culture is meta-behaviour. (Section 5.2 deals with the notion of meta-behaviour more extensively.)

figure 4.1: *levels of formalisation of meta-behaviour*



4 / 3 / 4 / meaning, ideas, products of the mind

Of the eighty-six definitions and interpretations listed above forty-nine refer in some way to meaning and/or ideas. Many theorists claim that culture has to do with language and concepts or with beliefs and convictions (see boxes 4.4a and 4.4b).

box 4.4a: *categories (language, concepts, meaning, etc.)*

C3	C42	C58	C66	C71	C78	C84
C9	C43	C59	C67	C74	C80	C85
C13	C45	C63	C68	C75	C82	
C39	C48	C65	C70	C77	C83	

Culture is often associated with the products of the mind, both material and spiritual. These products not only include knowledge and theories (see box 4.4b), but also literature, buildings, tools, skills, and many more (see boxes 4.5a and 4.5b).

box 4.4b: *beliefs (knowledge, ideas, theories, convictions, etc.)*

C8	C17	C32	C43	C59	C74	C86
C9	C18	C33	C44	C67	C77	
C10	C21	C37	C48	C68	C79	
C13	C25	C39	C49	C69	C81	
C15	C29	C40	C55	C70	C83	
C16	C30	C41	C58	C73	C84	

box 4.5a: *tools and skills*

C1	C12	C23	C39	C43	C55	C72
C10	C13	C26	C40	C49	C59	C81

box 4.5b: *artefacts (objects, texts, the arts etc.)*

C9	C16	C37	C51	C62	C74
C10	C30	C43	C59	C68	

Although material artefacts like books and buildings are often regarded to be part of culture, specific reference to this material culture is relatively rare (C1; C9; C19; C51; C55; C66). More common is the reference to the spiritual or intellectual aspects of culture (see box 4.6).

box 4.6: *spiritual and intellectual aspects of culture*

C2	C32	C9	C19	C51	C66
C20	C8	C16	C48	C55	

4 / 3 / 5 / less common aspects

Besides the relatively common aspects described above, there is a small number of relatively rare aspects. C3 (*gens*), for example, includes descent; C6 and C7 refer to the pre-Enlightened and/or non-Western aspects of early 19th century interpretations of culture (see § 3.4.2); and 8 definitions include a reference to culture as the transformation and/or domination (by man) of nature (see box 4.7).

box 4.7: *culture as the transformation and domination of nature*

C1	C23	C43	C55
C12	C24	C50	C83

Although this latter aspect is not often mentioned explicitly, the domination of nature may have been one of the key aspects in the development of the concept. It is, moreover, in this aspect that "culture" seems to be most closely related to the traditional (normative) concept of "civilisation" as societal development. Guadarrama González (1999), for example, defines culture as a level of domination or control:

La cultura expresa el grado de control que posee la humanidad, en una forma histórica y determinada, sobre sus condiciones de existencia y desarrollo. Ese dominio se ejecuta de manera específica y circunstanciada, por lo que puede ser considerado de manera auténtica cuando se corresponde con las exigencias de diverso carácter que una comunidad histórica, pueblo o nación, debe plantearse. (p. 66)

4 / 3 / 6 / classification and meta-classification

The aspects distinguished in the preceding subsection are a classification of definitional elements in the list of definitions and interpretations of "culture" presented above. Of course other classifications are possible. Above, it was shown, for example, that there are no crisp boundaries between patterns, rules and institutions; neither are there between patterns and skills or between beliefs and some immaterial artefacts.

Classifications are dependent on concepts or categories and are therefore cultural themselves. Moreover, as conceptual frameworks or languages co-determine the perception of reality (see § 2.1.1), these may be related to (almost) all other definitions of "culture". However, some classification of aspects is necessary to analyse such a large and diverse set of concepts. The classification presented here seems to capture most of the intensional diversity of "culture". The aspects of "culture" (the set of aspects **A**) distinguished in the preceding subsections are:

- A1 human;
- A2 A2a process / development;
- A2b condition / stage in development;
- A3 A3a social / group / national;
- A3b individual;
- A4 transformation / exploitation / domination of nature;
- A5 socially learned / transmitted;
- A6 descent;
- A7 patterns (ways of doing things: customs, habits, practices, etc.);
- A8 rules (incl. values, norms, attitudes, roles, structures etc.);
- A9 institutions (formalised / codified rules, patterns and structures);
- A10 categories (language, concepts, meaning, etc.);
- A11 beliefs (knowledge, ideas, theories, convictions, etc.);
- A12 tools and skills
- A13 artefacts (objects, texts, the arts etc.);
- A14 pre-Enlightened / non-Western;
- A15 spiritual / intellectual;
- A16 behaviour;
- A17 meta-behaviour.

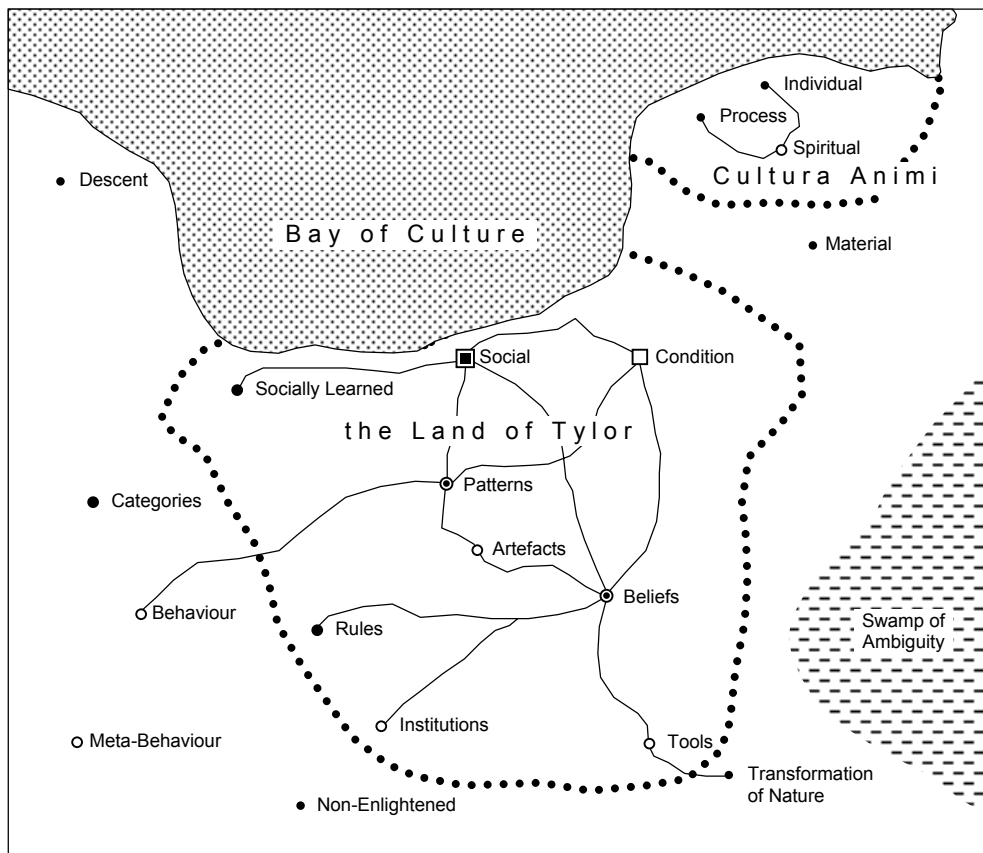
These aspects are a classification, but can be classified themselves as well. The aspects are of different types: some relate directly to the real world counterparts of the concept of "culture"; others seem to be higher-level aspects that point at, for example, the transfer or goals of these real world counterparts. It seems there is a meta-classification of aspects of "culture" in which two levels or classes must be distinguished. First-level aspects are the aspects that determine what kind of things, actions, events, etc. the concept of "culture"

refers to. These function – more or less – as the nouns in definitions of culture. The set of aspects of "culture" \mathbf{A} contains two different subsets of first-level aspects: \mathbf{A}^1_1 and \mathbf{A}^1_2 . \mathbf{A}^1_1 is {A7, ..., A13}; \mathbf{A}^1_2 is {A16, A17}. These two subsets classify more or less the same things, but \mathbf{A}^1_2 uses less and far more general terms. The set of second-level aspects \mathbf{A}^2 can be regarded as (the) adjectives in the definitions. \mathbf{A}^2 is {A1, ..., A6, A14, A15}. These aspects give additional information by restricting the first-level aspects by kind (A14, A15), goal (A4), transfer (A5, A6) or temporal context (A2). All definitions of culture include (although not necessarily explicitly) at least one first-level aspect. Second-level aspects may or may not be included to further restrict the definition. A definition of culture as socially transferred habits (C27), for example, is the set {A4, A6}. In other words: this definition is constructed as aspect A6 (patterns) restricted by aspect A4 (social transfer). Table 4.2 at the end of this chapter presents a matrix of eighty-six cases (the concepts C1 to C86) and eighteen variables based on the list of aspects above. The first aspect (human) is not included for two reasons: (1) it is implicitly assumed in nearly all definitions and interpretations and (2) it was shown in the subsection 4.3.1 that it is not a proper part of a definition of culture. The number of variables in the table is eighteen rather than sixteen because aspects 2 and 3 have two variants that are not necessarily mutually exclusive. This matrix is the starting point for an attempt to distinguish clusters of similar definitions and interpretations in section 4.3.

4 / 4 / mapping "culture"

This section tries to answer two questions: (1) are there clearly distinguishable groups or clusters of concepts of "culture"; and (2) if so, do the boundaries between these groups or clusters coincide with disciplinary boundaries? 'Mapping' culture could be taken quite literally. The objective is to draw a map of the conceptual field of culture. This can be done by formal means, as will be attempted below, but it is also possible to draw a – more or less – geographical map as in map 4.1. This map shows cities of varying sizes: the aspects identified above, the elements of \mathbf{A} (aspects mentioned more often are represented as bigger cities; aspects more often mentioned together are nearer to each other on the map); roads connecting aspects that are (very) often mentioned together; and regional boundaries for definitions as clusters of aspects. In case of map 4.1 only two regions are drawn: 'the Land of Tylor' (C10) and 'Cultura Animi' (C2). Adding more of the eighty-six concepts / regions of the list in the preceding section would quickly make the map incomprehensible.

map 4.1: mapping culture, literally...

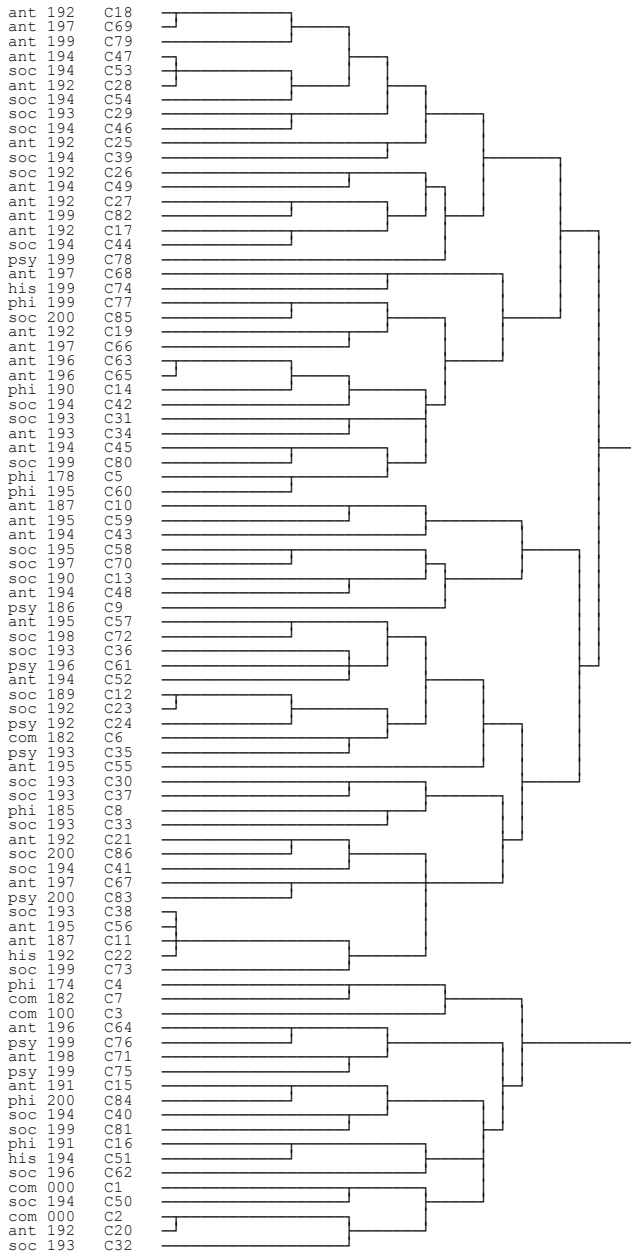


While map 4.1 may be helpful to imagine the conceptual field of "culture"; it is of limited use in finding structure therein. Formal methods may be more fitting here. As explained in subsection 2.6.2, two formal methods for mapping the intensional structure of a concept (or set of related concepts) are (readily) available: cluster analysis and formal concept analysis (FCA). The first is relatively easy but comes with a major disadvantage: it does not take the (possible) *genus - species* relationships between different concepts into account. FCA does, but is far more complicated and far more difficult to interpret.

4 / 4 / 1 / cluster analysis

Figure 4.2 graphically represents the results of a (hierarchical) cluster analysis of the eighty-six cases based on the distance between all eighteen dummy variables (absolute Euclidean / furthest neighbour linkage). (See below for further explanation.)

figure 4.2: *intensional clusters: dendrogram*



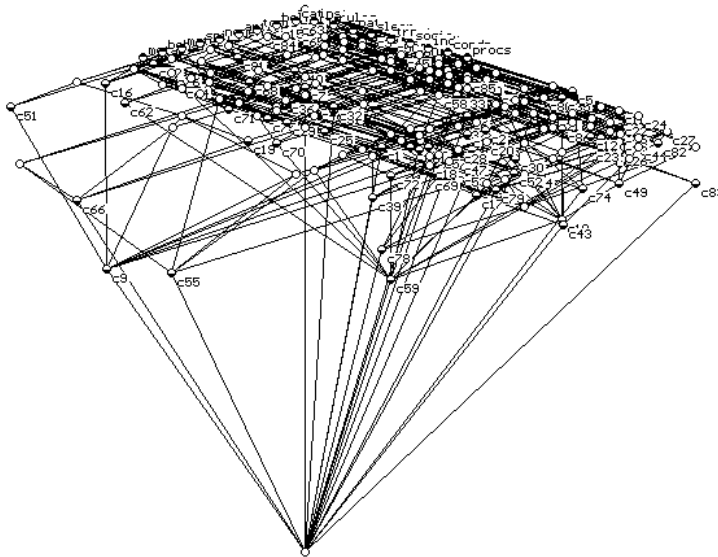
ant = anthropology; com = common usage; his = history;
phi = philosophy; psy = psychology; soc = sociology

All eighty-six cases are identified by case numbers (C1 to C86) and a code that refers to two parts of the context of that case. The first three letters are an abbreviation of the scientific field the definition is from, the next three figures refer to the decade when the definition was published or used: "ant 193", for example, means that that definition was published in an anthropological book or journal in the 1930s. The question that needs to be answered is whether this dendrogram reveals or (clearly) suggests any clustering or grouping of concepts. This, however, does not seem to be the case. The dendrogram only illustrates the bewildering variety of notions of "culture". Only rarely definitions from the same field and period are grouped at an early stage and there is no obvious clustering at all.

4 / 4 / 2 / formal concept analysis

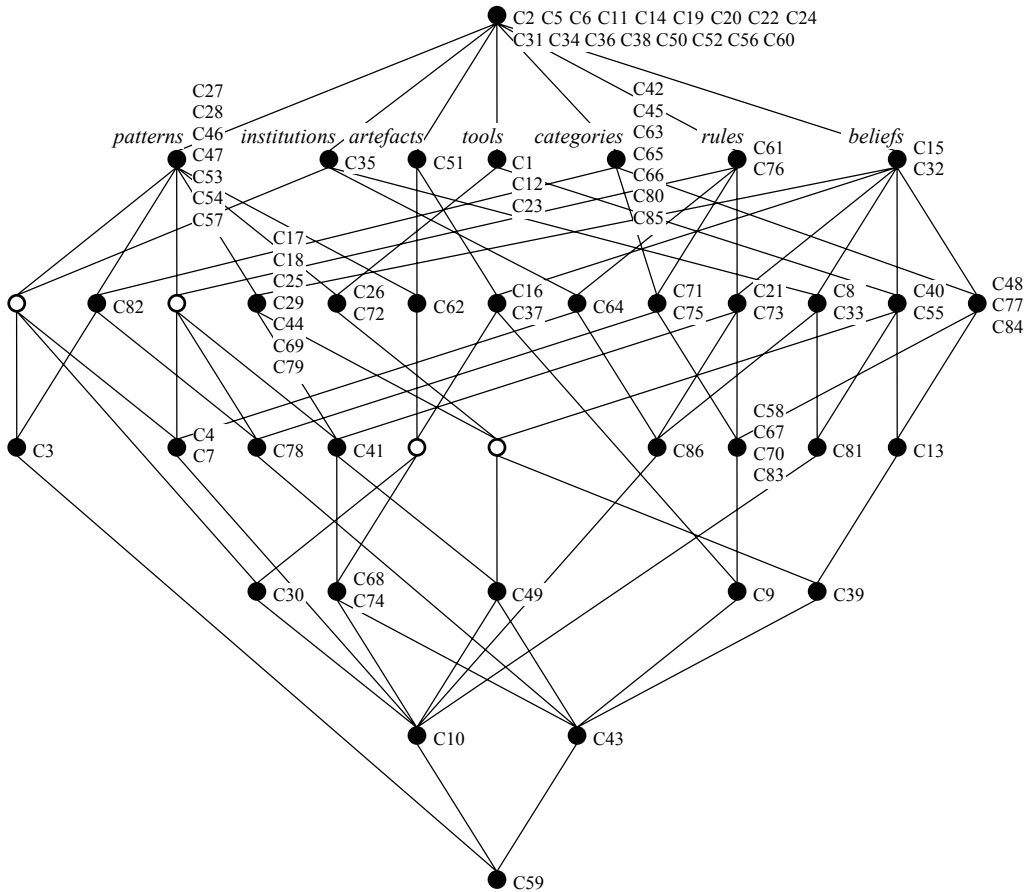
As mentioned above, FCA is far more difficult. It is nearly impossible to draw a lattice based on a formal context of eighty-six objects (the cases) and eighteen attributes (the aspects) without the help of specialised software. However, even with help of such software (ConImp v4.09 and Diagramm v2.12), the resulting lattice, which is drawn in figure 4.3, is impossible to interpret. There simply is too much information and too much diversity (see also § 2.6.2).

figure 4.3: *computer generated FCA lattice based on all attributes*



Stepwise, the number of attributes was decreased until a lattice could be drawn that was not just a black cloud of lines and dots (as in figure 4.3), but that is interpretable, although the complexity of "culture" still makes this very difficult. Figure 4.4 presents the lattice based on a subset of attributes, the set of first-level aspects \mathbb{A}_1^1 distinguished in subsection 4.2.2: (1) patterns (ways of doing things: customs, habits, practices, etc.); (2) rules (incl. values, norms, attitudes, roles, structures etc.); (3) institutions (formalised / codified rules, patterns and structures); (4) categories (language, concepts, meaning, etc.); (5) beliefs (knowledge, ideas, theories, convictions, etc.); (6) tools and skills; and (7) artefacts (objects, texts, the arts etc.).

figure 4.4: FCA lattice based on a subset of attributes



Although the lattice in figure 4.4 is redrawn to minimise the number of empty concepts (hollow dots), lines and knots (crossings of lines), the figure is still extremely complex. It is a map of the intensional diversity of the definitions and interpretations of "culture"

presented in the preceding section. Lines connecting the dots on the map represent relationships between different interpretations of culture. For example, C64 is composed of the aspects of rules and institutions. C86 adds beliefs to C64.

Figure 4.4 shows that Tylor's definition (C10) and Kroeber and Kluckhohn's (1952) synthetic definition (C59) are two of the broadest interpretations of culture, but the figure does not reveal what it was intended to reveal: there is no clear clustering of concepts of culture (which was also concluded from the cluster analysis above), although the lower levels of the figure suggest that there may be two broad groups of definitions, the first including institutions (C10 and above), the second excluding it (C43 and above). Nevertheless, any definition (or group thereof represented by a black dot) of the thirty-four in the lattice can be reached from any other definition within a very small number of steps. For any two definitions, there are a number of intermediate definitions. Disciplinary boundaries (and/or period) do not make the picture any clearer. From both cluster analysis and FCA, there is only one conclusion possible: the intensional structure of culture is a bewildering mess.

4 / 5 / civilisation, economy, *anti-culture*

Contrary to "culture", "economy" is a relatively straightforward concept. However, while hundreds (if not thousands) of definitions of "culture" have been put forward, definitions of the concept of "economy" are extremely rare. Generally, dictionaries and encyclopaedias of economics do not have an entry on the concept that describes their subject matter: "economy". Nevertheless, the preceding chapter supplies sufficient information to map the concept of "economy". The most important aspects of "economy" seem to be:

- (1) reason;
- (2) creation of wealth;
- (3) production, consumption and distribution (PCD)
- (4) behaviour;
- (5) institutions.

Different concepts of "economy" and the related "civilisation" are different combinations of these aspects as shown in table 4.1. Three concepts of "economy" are distinguished in this table. E18 is the 18th century concept of economy as the political organisation and institutions for the creation of national wealth; E19 is the late 19th and early 20th century concept of economy as the institutions of (or related to) production, consumption and distribution (PCD); and E20 is the late 20th century concept of "economy" as aggregate productive, consumptive and distributive behaviour (see § 3.4.3).

table 4.1: *concepts and aspects of "economy"*

	reason	wealth	PCD	behaviour	institutions
civilisation	X				X
E18	x	X			X
E19	x		X		X
E20	x		X	X	

The 18th and 19th century concept of "civilisation" referred specifically to the rationalised institutions that arose (or should arise) from the Enlightenment. Reason was and is an important aspect of the concept of "economy", but does not belong to the key aspects as it did in the case of civilisation (hence, the smaller Xs).

Drawing a FCA lattice based on table 4.1 is relatively easy, but still comes with a problem: the relationships between attributes (aspects) and objects (concepts) must be dichotomous. Hence, the small 'x's in the table have to be replaced by big 'X's or removed. The first option was chosen here, which resulted in figure 4.5:

figure 4.5: *FCA lattice of "economy"*

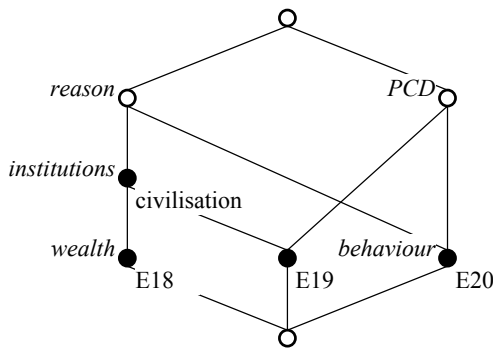


Table 4.1 and the lattice in figure 4.5 can be expanded easily to include a small number of concepts of culture. Adding "rules" to the list of attributes and seven concepts of "culture", all possible combination of behaviour, rules and/or institutions coded CS1 to CS7, results in figure 4.6.

figure 4.6: *FCA lattice of "culture" and "economy"*

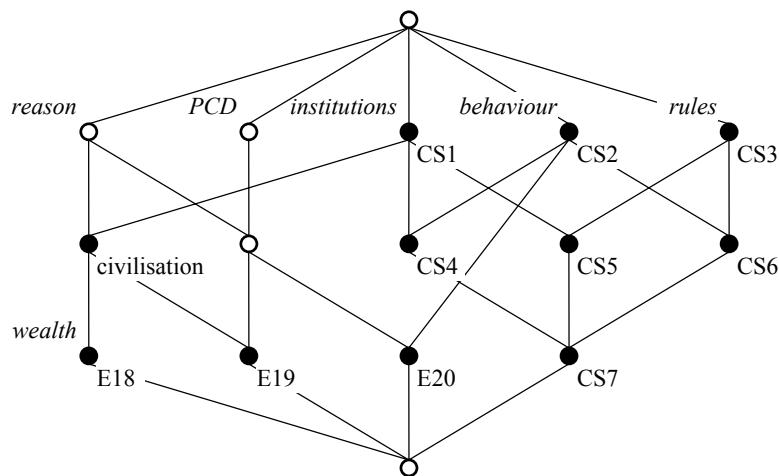


Figure 4.6 shows the relationships between a number of basic concepts of "culture" and "economy". Economy as E19, for example, is a specific part or form of civilisation (in terms of the graph: there is a line segment connecting E19 upwards to "civilisation"), which in its turn is a specific part or form of culture as CS1. Similarly, economy as E20 is a specific part or form of culture as CS2 and (possibly) overlaps with culture as CS4, CS6 or CS7. Hence, in several cases the CED would be a conceptual rather than a real-world relationship.

4 / 6 / notes towards conceptual reconstruction

If this section makes anything clear, it is that the concepts of the CED, "culture" especially, are in a state of complete and utter chaos. "Culture" can, and in fact does, mean (almost) anything (*e.g.* Geertz 1973), which makes it a rather useless concept. The other pole of the CED, "economy" is less problematic but can also mean a number of very different things. Moreover, depending on their definition or conceptualisation, the poles of the CED may overlap or one pole may be a part or subset of the other. Hence, conceptual reconstruction is necessary. To investigate the possible relationships between culture and economy and the theories about these relationships, a common language that avoids the problems presented in this section is needed. This common language should provide rules for translation of the different concepts; *not* their final definitions. The next chapter presents an attempt to construct such a language.

table 4.2: data matrix for intensional mapping of "culture"

	process	condition	individual	social	transf. of nature	socially learned	descent	patterns	rules	institutions	categories	beliefs	tools and skills	artefacts	non-Enlight.	spiritual	behaviour	meta-behaviour
C1	X				X								X					
C2	X		X													X		
C3				X			X	X		X	X							
C4				X				X	X	X								
C5	X			X														
C6		X		X											X			
C7								X	X	X					X			
C8		X		X						X			X				X	
C9		X		X					X		X	X		X		X	X	
C10		X		X		X		X	X	X		X	X	X				
C11		X		X		X												
C12		X		X	X								X					
C13		X		X							X	X	X					
C14																		
C15												X						
C16												X		X		X		
C17		X		X		X		X				X						X
C18		X		X				X				X					X	
C19				X		X										X		
C20	X		X													X		
C21		X		X					X			X						
C22		X		X		X												
C23		X		X	X								X					
C24		X		X	X													
C25		X						X				X						X
C26		X		X		X		X					X					
C27		X		X		X		X										
C28		X		X				X										X
C29				X				X			X							X
C30		X		X				X		X		X	X					
C31				X		X												X

table 4.2 – continued

	process	condition	individual	social	transf. of nature	socially learned	descent	patterns	rules	institutions	categories	beliefs	tools	artifacts	non-Enlight.	spiritual	behaviour	meta-behaviour
C32	X											X				X		
C33				X		X				X		X						
C34						X												
C35		X		X						X								
C36		X																X
C37		X		X								X		X				
C38		X		X		X												
C39		X		X				X			X	X	X				X	
C40						X						X	X					
C41		X		X				X	X			X						
C42											X							X
C43		X		X	X			X	X		X	X	X	X				
C44		X		X		X		X				X						
C45				X							X							
C46				X				X										X
C47		X		X				X										X
C48		X		X							X	X				X		
C49		X		X		X		X	X			X	X					
C50					X													
C51														X		X		
C52		X	X	X														X
C53		X		X				X										X
C54		X		X		X		X										X
C55		X		X	X							X	X			X		X
C56		X		X		X												
C57		X		X				X										X
C58		X							X		X	X						
C59		X		X		X		X	X	X	X	X	X	X				X
C60				X														
C61		X		X					X									X
C62								X						X				X

table 4.2 – continued

	process	condition	individual	social	transf. of nature	socially learned	descent	patterns	rules	institutions	categories	beliefs	tools	artifacts	non-Enlight.	spiritual	behaviour	meta-behaviour
C63											X							
C64									X	X								X
C65											X							
C66				X		X					X					X		X
C67	X		X		X				X		X	X						
C68								X			X	X		X				
C69	X		X					X				X					X	
C70	X								X		X	X						X
C71					X				X		X							X
C72	X		X					X					X					X
C73	X		X		X				X			X						
C74	X			X		X		X			X	X		X				
C75				X					X		X							X
C76									X									X
C77				X		X					X	X						
C78	X		X		X			X	X		X						X	X
C79	X		X		X			X				X					X	
C80	X		X								X							
C81										X		X	X					
C82	X		X		X			X			X							
C83	X		X	X	X				X		X	X						
C84											X	X						
C85				X		X					X							
C86	X		X						X	X		X						

chapter 5

CONCEPTUAL RECONSTRUCTION

Abstract concepts are but as flowers gathered, they are only moments dipped out from the stream of time, snap-shots taken, as by a kineoscopic camera, at a life that in its original coming is continuous.

William James 1909, p. 235

Die Bedeutung der Sprache für die Entwicklung der Cultur liegt darin, daß in ihr der Mensch eine eigne Welt neben die andere stellte, einen Ort, welchen er für so fest hielt, um von ihm aus die übrige Welt aus den Angeln zu heben und sich zum Herren derselben zu machen. Insofern der Mensch an die Begriffe und Namen der Dinge als an aeternae veritates durch lange Zeitstreden hindurch geglaubt hat, hat er sich jenen Stolz angeeignet, mit dem er sich über das Thier erhob: er meinte wirklich in der Sprache die Erkenntnis der Welt zu haben.

Friedrich Nietzsche 1878, §I.11

5 / 1 / introduction

The second stage in the method of conceptual analysis proposed in section 2.7 is conceptual reconstruction (CR). CR is necessary to re-categorise the conceptual field for which analysis was needed. The goal of CR and, therefore, of this chapter, is to clean up concepts and – if needed – introduce new ones in order to be able to express the same meanings, refer to the same 'things', but without the ambiguity that characterised the concept(s) before analysis. More specifically, this chapter, aims at the construction of a new conceptual framework that (as) rigorously and unambiguously (as possible) categorises the field(s) and that can be used as a *lingua franca* of the theories of the CED as presented in chapter 7. As explained before (in § 2.7) CR does not necessarily aim at new definitions as this is often impossible or impractical (for example in the case of essentially contested concepts; see § 2.4), but at translation rules that make comparison between the theories using different variants of the concept possible. This goal 'is furthered best by designing primarily a mantle definition in which particular conceptions can be encompassed as special cases' (de Groot

& Medendorp 1988, p. 261). The 'mantle definition' terms proposed in this chapter are "behaviour" and "meta-behaviour".

The breadth of meaning of the concept of "culture" especially may make CR, in the specific case of the CED, a rather more requiring task than in many other cases of conceptual analysis. In fact, as many definitions of culture comprehend all or nearly all of social reality, a CR of the CED may entail a re-categorisation of social reality, in other words: CR of the CED is an exercise in *social ontology*.

5 / 1 / 1 / social and representational ontologies of the CED

As explained (briefly) in subsection 2.6.1, social ontology is the specification and/or description of the ultimate constituents of social reality. Social ontology specifies the basic categories or primitives that form the foundation of our perception of, and (scientific) thought about, the social. It is, however, not just social ontology that is relevant here, but descriptive ontology as well. It is not just the concepts of "culture" and "economy" we are interested in, but the relationships between the corresponding phenomena and their theoretical contexts as well. What is needed here are both an ontology of social categories and an ontology of relationships. The first is social ontology, the second is not aimed at a full classification of some part of reality, but at a 'specification of a conceptualisation' (Gruber 1993, p. 200), at a list of variants of types of relationships and is, therefore, a form of representational ontology (see § 2.6.1).

While the basic 'objects' of such a representational ontology are implied by its label, "an ontology of relationships", these are not that obvious in the case of social ontology. In principle, the same basic entities of existential ontology in general can be the basic 'stuff' of social ontology. Throughout the history of philosophy a number of basic entities or ontological primitives have been proposed. Leucippus and Democritus, for example, introduced the first atomic theory in the 5th century BC. Everything was ultimately composed of unchanging, indivisible and material atoms. In Greek antiquity in general, reality was considered to be composed of some kind of material things or objects. Ontologies of objects became – more or less – the standard. Whether these were material as in materialism or mere perceptions or figments of the mind as in idealism, ontology was usually a science or philosophy of the ultimately constitutive *things*.

As mentioned, there are some alternatives. Most of these gained (some) prominence in the 20th century only. Whitehead (1926; 1929) and Russell (1924) proposed an ontology based on events. In such an ontology, events are the basic constituents of reality, not objects. Wittgenstein (1922), on the other hand, claimed that reality consists of facts (or true propositions). Similarly, Searle (1995), in what is probably the most famous recent study in social ontology, took social facts as the basic constituents of social reality. The 'bundle theory' (e.g. Russell 1940; Goodman 1951/66), finally, argues that all things are sets of properties – hence, properties are the most fundamental constituents of reality – or, in the

version of van Cleve (1985), that individual 'things' emerge from bundles of properties, but are not identical with these bundles.

There are some important rules and pitfalls in ontology one has to be aware of. Subsection 2.6.1 already dealt briefly with methods of ontology. The most important rules mentioned were Ockham's razor (do not postulate more (kinds of) entities than necessary) and the advice to formalise in order to avoid ambiguity: 'wherever possible, logical constructions are to be substituted for inferred entities' (Russell 1914, p. 115; quoted in 2.6.1). Pitfalls in ontology have to do with the misleading nature of language. As Nietzsche points out in the quote at the beginning of this chapter, concepts are often considered to be *aternal veritates*. They are not, however, eternal truths, but mere fashions (see § 2.4.2). Our ordinary, fashionable language to a large extent determines the categories of our thought, and hence, may limit ontological theorising: '*Die grenzen meiner Sprache bedeuten die Grenzen meiner Welt*' (Wittgenstein 1922, 5.6; see also § 2.1.1). In ontological research it is necessary to cross the boundaries of our ordinary language and – if necessary – to introduce new categories and concepts. Formalisation may be useful in this process, unless it is used only to enforce another equally limited language (see also § 2.3.3).

Secondly, 'there are many abstract words which do not stand for single universals – e.g. triangularity and rationality. In these respects language misleads us both by its vocabulary and by its syntax. We must be on our guard in both respects if our logic is not to lead to a false metaphysic' (Russell 1924, p. 168; see also § 2.2.3). Especially in the conceptual framework of social science, concepts that do not simply refer to objects, events, or phenomena but to theories or ideas are abundant. Unfortunately, these abstract concepts, including "culture" and "economy", are often regarded ontological primitives (e.g. Castree 2004). Postulating these abstract concepts as basic entities is obviously absurd (e.g. James 1909; see quote at the beginning of this chapter), but often it is not entirely clear whether a specific concept or category refers to an actual (simple) event or object or to a complex theoretical construction (of multiple events and/or objects).

5 / 1 / 2 / this chapter

As the following sections are on the ontologies of the CED, they have to deal carefully with the problems and pitfalls sketched above. As mentioned, two different ontologies are relevant to the CED: social ontology and a representational ontology of relationships. Social ontology, the ontology of basic categories of social reality, of the concepts of and in the CED, is the subject of the following section. The main goal of section 5.2 is the conceptual reconstruction of "culture" and "economy". This, however, does not imply that the section aims at new, final definitions for these concepts, but at a common language in which the existing definitions, especially as they are applied in the CED, can be translated.

Section 5.3 deals with the ontology of relationships (between the poles of the CED); and section 5.4 presents a brief summary of the conceptual framework, the ontologies proposed in this chapter.

5 / 2 / "culture", "economy" and social ontology

To reconstruct the concepts of "culture" and "economy", their definitions have to be rewritten in some common (and rigorous) language. This means that the elements that make up the definitions of these concepts have to be reduced to a (preferably small) set of ontological building blocks. These building blocks, moreover, have to be less ambiguous than the concepts that are built with them (*e.g.* Quine 1968; see § 2.2.3). In subsection 4.3.6 two sets of 'first-level aspects' of definitions and interpretations of "culture" were distinguished: \mathbb{A}^1_1 and \mathbb{A}^1_2 . The latter contains "behaviour" and "meta-behaviour"; the first contains seven basic aspects of culture:

- (1) patterns (ways of doing things: customs, habits, practices, etc.);
- (2) rules (incl. values, norms, attitudes, roles, structures etc.);
- (3) institutions (formalised / codified rules, patterns and structures);
- (4) categories (language, concepts, meaning, etc.);
- (5) beliefs (knowledge, ideas, theories, convictions, etc.);
- (6) tools and skills
- (7) artefacts (objects, texts, the arts etc.).

This section focuses on the building blocks of social ontology, the relationship of these aspects of "culture" and similar aspects of "economy" (see § 4.4) to these building blocks and the reconstruction of the concepts of "culture" and "economy". Social ontology is the starting point of the section.

The most basic question in any ontology is that about its fundamental building blocks or primitives. A number of alternatives were mentioned in subsection 5.1.1. These alternatives can be evaluated in a social ontological context. First, assume that (some kind of) objects are the final constituents of social reality. The question that immediately springs to mind is: What kind of objects? Surely, artefacts do not make up social reality and the only alternative seems to be people. However, social reality is not about people themselves, but about what they do and why they do these things, about their actions and motivations. Hence, social reality is composed of behavioural events.

Alternatively, Searle (1995) claims that the fundamental building blocks in social ontology are facts of the form 'X counts as Y in context C'. (Much earlier, in the preface to the 1901 (second) edition to *Les règles de la méthode sociologique* (1895), Durkheim also claimed that social reality is constituted out of social facts.) Searle points at the meaning of events and objects in social contexts, at categories, rules and concepts, and takes these to be the

final constituents of social reality. The difference between the event-based ontology and Searle's social ontology – more or less – coincides with the behaviour - meta-behaviour dichotomy of subsection 4.3.3 (and \mathbb{A}^1_2). The event-based ontology is an ontology of behaviour while Searle's is an ontology of meta-behaviour.

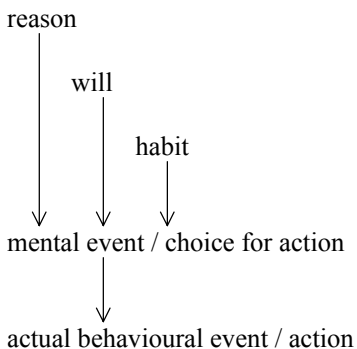
The 'bundle theory' could be a special case of an event-based ontology. It would define all events as sets of properties. The plausibility of the bundle theory hinges on the question whether an object or events *is* or *has* a set of properties. This question links the event-based to Searle's ontology since a property is the application of a (meta-behavioural) category to an event. The question one could and should ask is whether the event is composed or merely categorised by the property. This is the question about the ontological status of meta-behaviour which will be dealt with in subsection 5.2.3.

The basic ontological assumption of this section is that the building blocks of social reality are both actual behavioural events and meta-behavioural categories, rules, etc. Subsection 5.2.1 analyses the 'first-level aspects' of "culture" \mathbb{A}^1_1 listed above in these terms. Subsection 5.2.2 and 5.2.3 deal with the nature of meta-behaviour and the ontological relationship between behaviour and meta-behaviour respectively. Subsection 5.2.4 presents a reconstruction of a selection of interpretations of "culture" and "economy"

5 / 2 / 1 / behaviour, meta-behaviour and aspects of "culture"

Individual human behaviour is determined, as graphically represented in figure 5.1, by the interaction of reason, will and habit. It is, however, not individual human behaviour as such that is of interest here, but the cultural influence thereupon. Culture influences behaviour through the formation of will, habit and the input (of information) for rational decision-making (reason). (Note that there may be external constraints unknown to the decision maker at the time of the decision that hamper the execution of a choice for action.)

figure 5.1: *a model of (individual) behaviour*



An individual's will, his preferences and desires, is partly determined by a common human hunger for sex (Freud), power (Nietzsche) and/or money (Marx) (there may be more of these basic drives and there may be differences between men and women, but that is of little relevance here) and partly by culturally different ideals and taboos. Spiro (1954) pointed out that the distinction between innate and social (cultural) drives cannot properly be maintained and is fruitless. In other words, will may be a product of natural or innate drives and culture, but these components of (the creation of) will cannot be distinguished.

The formation of individual habits is influenced by individual experience, social rules and reason. Habits may be reasonable at the time of formation, but mostly they are copies of some rule, norm or social standard. Even when they become habits, not all rationality is lost as it may be rational, or more efficient at least, to copy known successful behaviour in similar occasions rather than rationally consider the options each time.

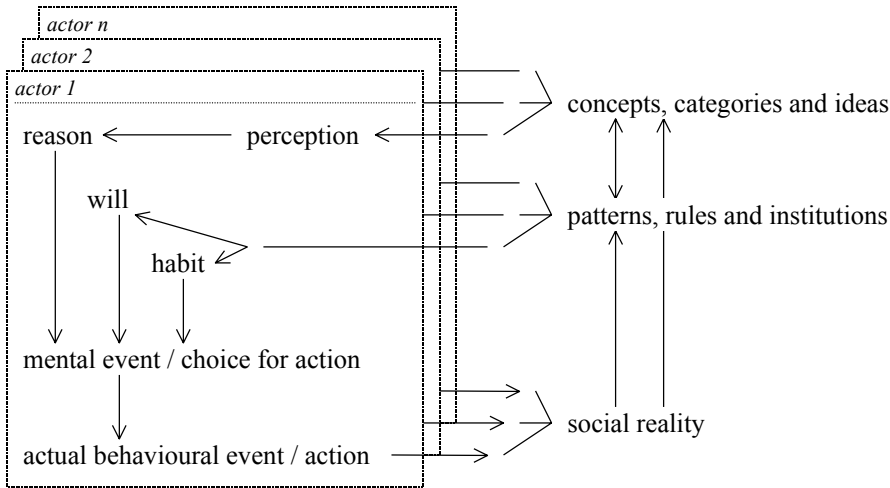
Although reason may influence habit and will, the latter are generally far stronger in determining our actions than reason, and through them, culture co-determines our behaviour. Reason more often is used to justify our actions afterwards, than to determine what action should be taken beforehand. (Similarly, individual values and attitudes are often adapted after and to actual behaviour.) Moreover, reason itself is not independent of culture. The idea of rationality and what is considered to be rational behaviour differs among socio-cultural groups (*e.g.* Zukin & DiMaggio 1990; Peet 1997). This may be a matter of conceptual confusion rather than actual cultural influence on reason, but even if reason is defined as the faculty of logical thought and knowledge (see § 3.2.1), the process of rational deliberation is influenced by culture (*e.g.* Elster 1989; Rabin 1998). This influence, although indirect, is of fundamental importance.

Rational choices for action are based on a consideration of the advantages and disadvantages of alternative actions. Culture influences this process of choice in (at least) two ways. Firstly, by pre-selecting the options for consideration. There are always options for action that are not considered, not even thought of, simply because we (and the socio-cultural group we are part of) just do not know these options exist. Secondly, the deliberation itself is based on the input of information through (different kinds of) perception. Perception, in turn, is transformed by our concepts, categories and ideas. We perceive the world and categorise and remember our experiences in the terms provided by our language (see also § 2.1.1).

Figure 5.2 (below) graphically summarises the above, but needs some further explication (a less elaborate version of the figure was proposed by, for example, Coleman 1990). Culture as concepts, categories, ideas, patterns, rules and institutions co-determines our choices for action and hence, our behaviour. The sum of all actions, of all behavioural events, is social reality. Social reality, in turn gives shape to (and includes) culture. Patterns are repeated actions in similar situations, the habits and customs of the group. Rules and institutions are formed if patterns are transformed into norms, if they are codified or if they are forbidden. Concepts and categories are the labels we apply to (and by which we classify) our actions, the results thereof and the things that influence them. Ideas and beliefs specify what actions

have been successful in the past or not, what kind of actions are preferable in what kind of situations and what kind of actions are taboo. Rules, patterns, ideas, concepts, and the like cannot be separated (from each other) easily. Rules and institutions are conceptual constructions, whereas ideas and beliefs generally include rules or institutions. Indeed, culture (or meta-behaviour) is a 'complex whole' (e.g. Tylor 1871; see also § 4.2).

figure 5.2: a model of social behaviour



Culture co-determines behaviour (e.g. Cushner & Brislin 1986/96; see also §§ 4.3.3 and 5.3). Hence, culture is meta-behaviour. The prefix "meta-" is mostly used to denote something that transcends what is followed by the prefix. "Meta-physics" is what lies beyond (or before) physics; it is some supposed deeper, more fundamental reality that cannot be investigated by the normal tools of empirical science. Similarly, "meta-behaviour" is what lies beyond actual behaviour. As meta-physics is some kind of 'deeper reality' that determines our world, meta-behaviour co-determines actual behaviour. And like meta-physics, meta-behaviour cannot be seen or investigated directly but only through the world or behaviour it produces.

The concept of "meta-behaviour" was introduced in subsection 4.3.3 as a comprehensive term for all aspects of culture that transcend actual behaviour. Meta-behaviour includes the 'things' that (relatively) directly guide our behaviour such as rules, habits and laws, but it also includes the 'things' that influence our behaviour indirectly by determining our perception of reality: language, concepts, theories and beliefs. Meta-behaviour is the ever-changing set of rules, concepts, etc. that our forefathers developed in an evolutionary process of adaptation to an ever-changing world and that we keep developing and adapting to our needs. Meta-behaviour, therefore, is both contingent and path-dependent.

Whether a definition of culture as meta-behaviour, as suggested above, is sufficient (as a definition) depends on two questions: (1) are there meta-behavioural 'things' that are not cultural; and (2) are there cultural 'things' that are not meta-behavioural? The first question can be answered by looking at figures 5.1 and 5.2. These show that behaviour is determined by reason, will and habit. Reason is explicitly not an aspect of "culture"; reason and culture are nearly contradictory (see § 3.2). Culture is the enemy of reason (*e.g.* Gellner 1992). The next question then, obviously, is: Is reason (a type of) meta-behaviour? The answer to that question would be positive if meta-behaviour is interpreted as everything that determines behaviour, but that is not what is intended here nor in earlier sections (§ 4.3.3 mainly).

Similarly, individual habits and will may be formed by culture, but that does not make them cultural. The clue is in the adjective "individual": culture is not an individual, but a social phenomenon. The definition of meta-behaviour as 'that which guides behaviour' (§ 4.3.3) must be amended: meta-behaviour is everything social (-ly shared, learned, transferred, formed, etc.) that influences or determines behaviour. This solves the problem as reason, will and (individual) habit are individual phenomena, but (some of) the influences thereupon are not. (Note that learned behaviour is generally socially learned – it is learned *by* people *from* people – which implies that learned pathways for behaviour are social (or non-individual) influences on behaviour and, therefore, by the definition presented above, are meta-behaviour.)

The second question on sufficiency of the definition of culture as meta-behaviour was whether there are 'things' cultural that are not meta-behavioural. This question can be answered by considering the most important elements or aspects of (in) definitions of "culture", the list of first-level aspects A^1_1 presented in subsection 4.3.6 and repeated above. (Obviously, A^1_2 is not relevant here.) Patterns, rules and institutions have been dealt with above and in subsection 4.3.3. Patterns are the ways people do things: customs, habits, practices etc. Patterns are not just repeated action, but provide pathways for action. At some point patterns may become rules. Rules are normative patterns. Rules are combinations of patterns and associated norms or values (*e.g.* Kunkel 1965). Roles are (a kind of) conceptually identified patterns or rules and skills are rules in which the value is more practical than normative. Institutions, finally, are codified or formalised rules or patterns. (see also Schlicht 1993; 1998, § 4.3.3 and figure 4.1)

Categories and concepts are the labels we apply to things, events, patterns, and so forth. By means of these labels we classify and experience reality. Categories and concepts co-determine perception and the way it is used in and for thought. Thought is further influenced by beliefs, ideas and convictions (and hence, by knowledge as 'justified true belief'). While patterns, concepts and beliefs are clearly examples of meta-behaviour, tools and artefacts seem to be more problematic. Tools and artefacts are often, but not necessarily (as in the case of texts), material objects. However, what makes them a tool or artefact is not their materiality but their meaning or intended use. What makes an object a tool or an artefact is a rule for its use (although that is not necessarily still in effect). Hence, tools and artefacts are meta-behavioural. (Note that many artefacts are tools as they are or were often

intended for a specific use with a specific goal. These uses and goals may, however, not be considered rational or useful by (relative) outsiders.)

The above shows that culture can be defined as meta-behaviour, as everything social that influences or determines behaviour, indeed. However, the concept of "meta-behaviour" itself is not entirely ontologically unproblematic as meta-behaviour is both *pre* and *post* behaviour: it is both a reflection and a determinant of actual behaviour. This problem will be dealt with in subsection 5.2.3 after a brief excursion on social primitives and formal symbols in the following subsection.

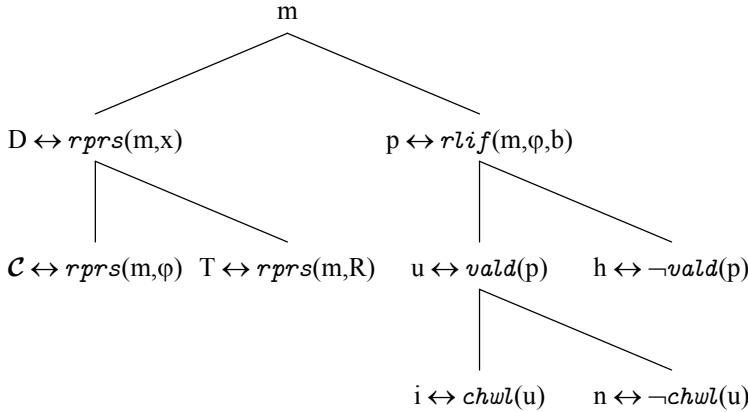
5 / 2 / 2 / primitives, symbols and meta-behavioural entities

The basic constituents or primitives of social reality are behavioural events and/or meta-behavioural entities (e.g. rules, concepts). Social reality, then, consists of the set of behavioural events \mathbb{B} and the set of meta-behavioural entities \mathbb{M} . (See box 5.1 for an explanation of the symbols introduced in this chapter.) Figure 5.2 also includes mental events d , which could be aggregated in a set \mathbb{D} . Mental events, however, are psychological rather than social entities and the aggregate \mathbb{D} is non-existent or meaningless at least. Social reality consists of actions and rules and ideas (etc.), not of individuals' decisions.

\mathbb{B} can be indexed: \mathbb{B}_x . These indexes represent subsets, conceptual categorisations or classifications of \mathbb{B} and are, therefore, meta-behavioural. For example, the between economy as behaviour related to production, consumption and distribution \mathbb{B}_{PCD} and behaviour in general only makes sense because of our conceptual distinction between productive, consumptive and/or distributive behaviour and other kinds of behaviour. As all (possible) subsets of \mathbb{B} are bound either conceptually or trivially, they are contingent. Moreover, events (members of \mathbb{B}) themselves are distinguished from the larger process they are part of only because they can be classified. Like subsets of events, events are conceptually and, therefore, meta-behaviourally bound. Hence, actual events are dependent on meta-behavioural entities (see also § 5.2.3).

Similarly (to the distinction of conceptually different indexed subsets of \mathbb{B}), subsection 5.2.1 showed that different types of meta-behavioural entities m , different subsets of \mathbb{M} , can be distinguished. Figure 5.3 presents a formal taxonomy of these types of m or subsets of \mathbb{M} . The descriptions of the classes in figure 5.3 introduce new symbols (before the \leftrightarrow symbol) and the conditions for the application of these new symbols, their definitions (after the \leftrightarrow symbol), such that $D \leftrightarrow rprs(m,x)$ is shorthand for: $\forall m[m=D \leftrightarrow \exists x[rprs(m,x)]]$, which should be read as: 'for all m , m is a D if and only if there is an x such that m represents x ' or, shorter, as: ' D is defined as an m that represents an x ', in which x is an unspecified type of entity and can, hence, be replaced by 'something'.

figure 5.3: a formal taxonomy of meta-behavioural entities



The top-level distinction of the taxonomy distinguishes representations or descriptions D ($rprs(m,x)$: 'm represents x') from patterns p ($rlif(m,\varphi,b)$: 'm is a pattern of the form: 'in case of (or if) φ , then b'). The first type of meta-behavioural entities can be subdivided further in concepts \mathcal{C} , which are representations ($rprs$) of entities (phenomena, objects or events) φ ; and theories, ideas and beliefs T , which are representations of relationships R between (two or more) entities φ .

Patterns are relationships ($rlif$) between an actual entity (event, object or phenomenon) φ and a behavioural event b of the general form: 'in case of (or if) φ , then b'. As all entities φ are either behavioural events b or non-behavioural physical objects or events, $rlif(m,\varphi,b)$ is a special type of $rlif(m,\varphi,\varphi)$, which is itself a special type of relationship R (formally: $\forall m[(rlif(m,\varphi,b) \rightarrow rlif(m,\varphi,\varphi)) \wedge (rlif(m,\varphi,\varphi) \rightarrow m=R)]$). Hence, a meta-behavioural entity of type T (e.g. theory, idea, belief) may be a representation of another meta-behavioural entity of type p (pattern). (Note that the distinction between behavioural events and physical objects or events is similar, but not completely identical, to the distinction between *institutional* and *brute facts* (Anscombe 1957; Searle 1969; 1995) and that the meaning of several terms, including "patterns", is more restricted here than in earlier sections.)

Within the set of patterns \mathbb{P} , a number of subtypes can be distinguished depending on the applicability of two further predicates: $vald$ and $chwł$. The first distinction is that between rules u and customs h . Rules are valued ($vald$) patterns (see § 5.2.1); customs are not. The second distinction is that between institutions i and non-institutionalised rules n . The defining characteristic of institutions is that these can be changed by an act of will ($chwł$) (see also § 4.3.3).

box 5.1: *behavioural and meta-behavioural entities: formal symbols*

φ	an actual entity (event, object or phenomenon) ($\varphi \in \Phi$); there are two kinds of φ : behavioural events b , and physical objects and events
Φ	the set of actual entities
b	an (actual) behavioural event ($b \in \mathbb{B}$)
\mathbb{B}	the set of (actual) behavioural events (remember that $\mathbb{B} \subset \Phi$)
\mathbb{B}_x	a set of (actual) behavioural events bounded by x such that $\mathbb{B}_x \subset \mathbb{B}$
d	a mental event
m	a meta-behavioural entity ($m \in \mathbb{M}$)
\mathbb{M}	the set of meta-behavioural entities
\mathbb{M}_x	a set of meta-behavioural entities bounded by x such that $\mathbb{M}_x \subset \mathbb{M}$
D	a representation or description (type of m)
\mathcal{C}	a concept or category (type of D)
\mathbb{C}	the set of concepts or categories ($\mathbb{C} \subset \mathbb{M}$)
T	a theory, idea or belief (type of D)
\mathbb{T}	the set of theories, ideas and beliefs ($\mathbb{T} \subset \mathbb{M}$)
p	a (behavioural) pattern (type of m)
\mathbb{P}	the set of (behavioural) patterns ($\mathbb{P} \subset \mathbb{M}$)
u	a rule (type of p)
\mathcal{U}	the set of rules ($\mathcal{U} \subset \mathbb{P}$)
h	a custom (type of p)
\mathcal{H}	the set of customs ($\mathcal{H} \subset \mathbb{P}$)
i	an institution (type of u)
\mathcal{I}	the set of institutions ($\mathcal{I} \subset \mathbb{P}$)
n	a non-institutionalised rule (type of u)
\mathcal{N}	the set of non-institutionalised rules ($\mathcal{N} \subset \mathbb{P}$)

The taxonomy presented in figure 5.3 seems rather straightforward. Reality, however, is not. Subsection 4.3.3 briefly explained that the boundaries between types of patterns (*e.g.* customs, rules, institutions) are *fuzzy* rather than the *crisp* boundaries suggested by the formulas in figure 5.3. The difference between rules and customs, in practice, is not that the first are valued patterns while the latter are not, but that the first are valued more strongly and more explicitly than the latter. There is a continuous range in which $vald(p)$ and $\neg vald(p)$ are the extremes. The same is true for the distinction between institutions and non-institutionalised rules. The difference is not absolute but one of degree of institutionalisation, in this case: the degree to which it is possible and/or feasible to change a rule by an act of will. Therefore, in short, \mathcal{U} and \mathcal{H} , respectively \mathcal{I} and \mathcal{N} (see box 5.1), are overlapping subsets of \mathbb{M} with fuzzy membership. Moreover, the distinction between concepts, theories and patterns too is not as hard as suggested in figure 5.3. As explained in subsection 2.1.2 and 2.4.2, concepts are theories themselves (or theory laden at least).

Moreover, Wittgenstein (1953) argued that a concept (or its meaning) is a rule for its use (see § 2.2.1). Hence, a concept is a rule as well. Rules in turn, if interpreted utilitarianistically ('it is useful to do b in case of ϕ '), are theories. And finally, theories are ordered sets of concepts.

It might be useful to illustrate the above with an example: the event of John buying a loaf of bread at the bakery. As an individual actual event this is a b , but it can also be deconstructed into a series of b s: John entering the bakery; John ordering a loaf of bread; John receiving a loaf of bread; John paying; etc. These behavioural events in turn can be divided and subdivided *ad infinitum*. The event, of course, cannot be described without meta-behaviour. Indeed the classification and description of the events themselves is meta-behavioural (conceptual, to be more precise). "Ordering", "buying", "loaf of bread", and so on are all meta-behavioural entities of the type \mathcal{C} . Moreover, the classification and (sub-)division of events is, in practice, dependent on the availability of concepts to label and describe the classes.

As it is busy in the bakery, John awaits his turn, conforming to an unwritten rule (n) or custom (h). The banknote John uses to pay for his bread is an artefact; it is an actual (physical) object (ϕ) that is used in conformity to an institution (i). John's decision (d) to pay, rather than steal the bread, may have been formed in a rational process in which John evaluated the advantages and benefits of buying versus stealing. The latter is punishable by the institution (i) of law, which is a risk John chooses not to take. On the other hand, buying it may be just a habit that is formed in John's education as the effect of some kind of rule (u). Of course, John does all of this because he believes that his actions have certain (desirable) effects. He believes that ordering a loaf of bread will result in him receiving it; similarly, he believes that the baker will accept his money in return for the bread. These beliefs are examples of the theories, ideas and beliefs (T) that influence our actions.

Like any classification, the ontological taxonomy presented here is an arbitrary classification of a reality that is continuous. Concepts and categories 'are only moments dipped out from the stream of time' (James 1909, p. 235; more fully quoted above). Although class boundaries are defined as unarbitrarily as possible, they *are* arbitrary nevertheless. This implies that definition in terms of this framework, although far less ambiguous than the definitions presented in section 4.2, is *not* completely unambiguous. To make matters even worse: even the distinction between behavioural and meta-behavioural entities is problematic. Meta-behaviour \mathbb{M} both (co-)determines and classifies behaviour \mathbb{B} . The two sets seem to be inseparably bound together. The phrase that meta-behaviour classifies behaviour, however, suggests that behaviour is more fundamental or primitive than meta-behaviour. The next subsection deals with the ontological status of meta-behaviour.

5 / 2 / 3 / on the ontological status of meta-behaviour

The ontological status of meta-behaviour concerns the existence of meta-behaviour **M** independently of behaviour **B**. Do rules, institutions, categories, concepts, and so forth exist independently of the actual (behavioural) events that are categorised by them or are they just that: categories or classifications? In other words: does culture exist independently of (culturally influenced) behaviour? This is the Medieval problem of universals with a slight twist.

One of the most important philosophical problems of the Middle Ages was the question whether universals are 'things' or just words. *Universals* are concepts referring to kinds rather than individuals (*particulars*). "Tree", for example, is a universal; "the tree in my backyard" is not. "Man" is a universal; "Socrates" is not. ("The tree in my backyard" and "Socrates" are particulars.) (On universals see e.g. Moreland 2001.) The first answers to the question on the existence on universals were *realist*. Plato and Aristotle defended different kinds of realism. According to Plato, universals are real and exist completely independently of the things they refer to. Particulars are nothing but inadequate imitations of universals (ideas). Aristotle, on the other hand, argued that universals exist in concrete things. Universals make things what they are. Medieval realists, including Thomas Aquinas and Duns Scotus, mostly (but not exclusively) followed Aristotle. The opposite to realism is *nominalism*, according to which universals are just words. Universals only exist in the mind as names for actual things. Nominalism flowered in the 12th and 14th centuries in the works of Abelard (although he is sometimes referred to as a *conceptualist*, which is held to be some kind of middle position between nominalism and realism) and William of Ockham. The problems of universals returned in 20th century analytical philosophy. Wittgenstein (1953), for example, concluded that the application of a single term (universal) does not necessarily mean that all instantiations of that term have a common essence (see § 2.2.2 and §2.2.3) and, therefore, refuted Aristotle's position.

The problem here is a bit wider than that of universals, however. It is not just the relationship between concepts and their instantiations that is questioned, but also the relationships of customs, rules and institutions to the behavioural patterns they pre- and/or de-cribe. The nominalist position would be that meta-behaviour is nothing but a classification of actual behavioural events and **M** can be reduced to **B**. Realism, on the other hand, denies this reduction and claims that there are elements of meta-behaviour that are present in actual behavioural events. The problem is that both claims seem to be true.

The main argument against realism is Ockham's razor (see §2.6.1). Arguments against nominalism are generally of a less formal nature. A major problem of nominalism in this specific case is that it seems to be incompatible with many theories of the CED (which would either refute nominalism or these theories). How could a rule *m* co-determine a behavioural event *b* if *m* is nothing but a label for *b*? The label should at least exist as a pathway or template in the mind of the actor that chooses to do *b*.

Moreover, the reduction of \mathbb{M} to \mathbb{B} is not the only reduction possible. Actual events can be reduced to meta-behavioural entities as well, as the distinction of an event from the 'stream of time' (James 1909) is dependent on the existence of an appropriate concept (see also § 2.1.1). We perceive reality in terms of our concepts, and the event of paying for a loaf of bread at the bakery, for example, is an event only because we conceptually (hence, meta-behaviourally) distinguish the event of paying from the continuous process that is our world. In other words, a b is a b only if there is an m describing it.

Like most (if not all) philosophical problems, the problem of universals may be a conceptual one: it may be more about what it means to 'exist' than about universals. Clearly, if universals or meta-behavioural entities exist, they exist in a way that is fundamentally different from their instantiations. That, however, does not necessarily deny their existence. \mathbb{B} and \mathbb{M} both exist, but not in the same way, not in the same sphere of social reality, not in the same of Popper's (1972) three worlds. Hence, there are (at least) two spheres of reality: (1) the sphere of actual entities Φ (remember that $\mathbb{B} \subset \Phi$); and (2) the sphere of meta-behavioural entities \mathbb{M} . The first is the sphere of *brute facts*, the second that of *institutional facts* (Searle 1969; 1995). The first contains rocks, bricks and the actual event of bricklaying; the second contains the concepts of "rock" and "brick" and the rules, theories and ideas associated with bricklaying.

5 / 2 / 4 / "culture" and "economy" as ontological categories

The goal of this section, of course, is to rewrite the concepts of "culture" and "economy" in less ambiguous terms. Section 4.2 showed that there are many definitions of both "culture" and "economy" (but of "culture" especially). These definitions can be translated in terms of behaviour and meta-behaviour. Tylor's (1871) definition of culture as 'that complex whole which includes knowledge, belief, art, morals, law, custom, and any other capabilities and habits acquired by man as a member of society' (p. 1) can be translated easily. The first half of his definition specifies a number of examples of meta-behaviour, while the second points at the social aspect of culture, which is also implicit in the concept of "meta-behaviour" (see § 5.2.2). Hence, Tylor's "culture" (C10) is meta-behaviour \mathbb{M} (although it could be argued that, as Tylor did not explicitly include language, his definition of culture should be translated as $\mathbb{P} \cup \mathbb{T}$).

Although most concepts of culture can be translated as meta-behaviour, there seem to be some exceptions. A number of scholars (mainly from an anthropological background) define culture in terms of behaviour rather than meta-behaviour. In subsection 4.2.1, it was shown, however, that what is intended in these definitions are types or patterns or behaviour rather than (actual) behaviour itself. Hence, these concepts too identify culture with meta-behaviour.

The majority of the definitions specified in section 4.2 interpret culture as a subset of \mathbb{M} . Most of these coincide with the subsets distinguished in subsection 5.2.2. However, some definitions are more specific. The classical definition (C1) of culture as the application of skilled human activity to transform non-human, non-cultural nature (as in agriculture etc.), for example, refers to a very specific subset of meta-behaviour: the skills and behavioural patterns related to the transformation of nature: $\mathbb{P}_{\text{trans.nat}}$.

Among the definitions (presented in § 4.2) that can be translated simply in terms of the subsets presented in subsection 5.2.2 nearly every combination of these subsets seems a candidate for a definition of culture. For example, C35 defines "culture" as institutions \mathcal{I} . On the other hand, C43 defines "culture" as everything except institutions: $\mathbb{M}-\mathcal{I}$. Some further examples illustrate the variety of definitions: "culture" as a way of life as in C4, C47, C53 and C57, for example, is \mathbb{P} ; C27 is \mathcal{H} ; C15 is \mathbb{T} ; C78 is $(\mathbb{P}-\mathcal{I})\cup\mathbb{C}$; C41 is $\mathbb{T}\cup\mathcal{H}\cup\mathcal{N}$; C59 is \mathbb{M} ; C61 is \mathcal{N} ; C63, C65 and C80 are \mathbb{C} ; and C82, finally, is $\mathbb{C}\cup\mathcal{H}\cup\mathcal{N}$. (See § 4.2 on the codes used to identify definitions of "culture".)

Despite this bewildering variety of interpretations, as mentioned in subsection 4.3.2, there seems to be one characteristic that, more than all others, divides the definitions of culture into two groups. This is the subset of institutions \mathcal{I} . A number of theorists explicitly interpret "institutions" as different from "culture". Their concept of "culture" is $\mathbb{M}-\mathcal{I}$ or a subset thereof. The competing interpretation sees institutions as part of culture and hence, defines "culture" as \mathbb{M} (or a subset (including \mathcal{I}) thereof). The first of these interpretations seems to be slightly more common among institutionalists (mainly economists and sociologists), the second slightly more common among anthropologists.

The only concept of "culture" on the list (in section 4.2) that cannot be translated as meta-behaviour or a subset thereof is *cultura animi* (C2 and C20). *Cultura animi* is culture of the individual rather than society. It is the education and 'individual refinement' (Sapir 1924, p. 403; C20) of individual people. It has relatively little to do with culture as a social category and is of very limited relevance to the (history and/or theories of the) CED and will, therefore, be further ignored.

Translation of the concept of "economy" in terms of behaviour and meta-behaviour is slightly more complicated than translating "culture". The most common (modern) definition of "economy" is aggregate productive, consumptive and distributive (PCD) behaviour: \mathbb{B}_{PCD} . "Economy" as implied in the phrase "economic growth" is more or less synonymous to "wealth". It is the aggregate monetary value of productive, consumptive and distributive behaviour: $\mathcal{V}(\mathbb{B}_{\text{PCD}})$. (\mathcal{V} is a function such that $\mathcal{V}(\mathbb{B}_{\text{PCD}}) =_{\text{def.}} \Sigma \text{value}(b_{\text{PCD}})$.)

These are, however, hardly the only interpretations of the concept. A translation of the late-19th century concept of "economy" would be \mathcal{I}_{PCD} as it was then interpreted as the institutional organisation of production consumption and distribution. Still earlier, in the late 18th century, "economy" was the institutional organisation related to national wealth: $\mathcal{I}_{\text{nat.wealth}}$. (see also § 3.4.3 and § 4.4) (Note that if "economy" is defined as \mathcal{I}_{PCD} , it is a subset of "culture" defined as either \mathcal{I} , \mathcal{U} , \mathbb{P} or \mathbb{M} .) The concepts of "economy" most

important in the CED are \mathbb{B}_{PCD} , \mathcal{I}_{PCD} or \mathbb{M}_{PCD} , and/or some combination thereof, such as $\{\mathbb{B}_{\text{PCD}}, \mathcal{I}_{\text{PCD}}\}$.

No final definitions of "culture" and "economy" are provided in this section. Such final definitions are not the goal of this study (and would, moreover, probably not be very useful). What was aimed at, and what has been done above, is the construction of a common language for the translation of the concepts of the CED that is as rigorous and as unambiguous as possible. Different versions of both "culture" and "economy" and economy are used in different theories. Most theories on the influence of culture on economic growth can be rewritten as theories of the influence of \mathbb{M}_X on \mathbb{B}_Y ; that is, as the influence of meta-behaviour of type X on actual behaviour of type Y. The formal structure of the (possible) relationship(s) between \mathbb{M}_X and \mathbb{B}_Y , here written as "influence on", is the subject of the next section.

5 / 3 / the ontology of C-E relationships

The analysis of the CED thus far focused almost exclusively on the polar concepts of "culture" and "economy". As explained in section 2.7, the CED is not just a pair of concepts, it is a complex theoretical (and possibly empirical) relationship as well. Remember that the analysandum was defined as:

$$\mathbf{D2.12}_R \quad \mathcal{A}_{CED} = \langle\langle \text{"culture"}, \text{"economy"}, \mathcal{C}_{relation} \rangle, \langle R_{bin.op.}, R_{theory} \rangle \rangle ,$$

in which "culture" and "economy" are related both by binary opposition ($R_{bin.op.}$) and, mediated by $\mathcal{C}_{relation}$, in / by theory (R_{theory}). The last part, R_{theory} , is the subject of chapter 7. In this section $\mathcal{C}_{relation}$ will be analysed. Verbs often used for $\mathcal{C}_{relation}$ include "determines", "causes" and "influences". Causality, however, is not without its problems (see also § 7.1.1). The idea of causation is one of the most difficult and most debated topics in philosophy (*e.g.* Humphreys 2000). Ever since Hume (1748) showed that causation is not an empirical category, philosophers of science argued whether there should be a place for the concept in empirical science. It may, however, be very difficult do without it.

Generally, varieties of $\mathcal{C}_{relation}$ are causal relationships of differing strength and direction. In its strongest form, A determines B, while in its weakest form there is no more than 'some influence' of A on B. Nearly all theories of the CED are positioned between these extremes. Table 5.1 distinguishes a number of possible strengths of relationships (in rows) based on probability of event B if A or not A. The formula $p(B|A)$ means 'the chance of B happening if A happened'. The alternatives in the table do, however, have no implications on the direction of causality; they only show a probabilistic relationship between A and B.

table 5.1: *relationships of varying strengths*

$p(B A) =$	$p(B \neg A) =$
1	0
1	< 1
< 1	0
> 0.5	< 0.5
> $p(B \neg A)$	< $p(B A)$

As the strength of a theoretical relationship is generally not easily measurable or quantifiable, it is not very useful to distinguish too many classes of strength. Moreover, most theories are not very specific on the strength of the supposed relationship. It seems, therefore, enough to distinguish theories of strong and weak causation. The boundary between these classes, however, is highly subjective. Combining these two classes of strength with two directions of causality results in eight possible causal relationships:

table 5.2: *possible combinations of strengths and directions*

	\Rightarrow^w	\Rightarrow^s
\Leftarrow^w	\Leftrightarrow^{ws}	\Leftrightarrow^{sw}
\Leftarrow^s	\Leftrightarrow^{sw}	\Leftrightarrow^{ss}

The symbols in table 5.2 can be read as in these examples:

- $A \Rightarrow^w B$ A weakly causes (influences) B;
- $A \Leftarrow^s B$ A is strongly caused (co-determined) by B;
- $A \Leftrightarrow^{sw} B$ A is strongly caused (co-determined) by B while, the other way around, A weakly causes (influences) B;
- $A \Rightarrow B$ there is a causal relationship between A and B (from A to B) of unknown strength.

The structure of $\mathcal{C}_{relation}$ in the CED is, however, not simply one of event A caused event B since the concepts of "culture" and "economy" do not refer to (singular) events. It is not culture and economy themselves that are (directly) causally related, but changes in aspects or values thereof. (Culture is not an event; as the most general definition of "event" is a change in something (e.g. Lombard 1991), cultural change is.) An extra symbol is needed to symbolise this. This extra symbol represents change or difference, but as change (or difference) may have an explicit direction, two versions of the symbol are needed. These are Δ representing *undirected* change or difference; and \triangleleft representing *directed* change or difference. Hence $\Delta A \Rightarrow \Delta B$ means that a change or difference in A causes a change or difference in B; and $\triangleleft A \Rightarrow \triangleleft B$ means that more A results in more B. (Note that $\forall A, B [\triangleleft A \Rightarrow \triangleleft B \rightarrow \Delta A \Rightarrow \Delta B]$.) Meta-behaviour and behaviour in general are, by definition (see § 5.2.1), related such that:

$$\mathbf{D5.1} \quad \Delta \mathbf{M} \Rightarrow \Delta \mathbf{B} ,$$

as this relationship is implied by the concept of "meta-behaviour". However, there also is a causal relationship in the opposite direction: meta-behaviour not only (co-)determines behaviour, but is also produced by it (see §§ 5.2.1 and 5.2.3). Hence:

$$\mathbf{T5.1} \quad \Delta \mathbf{M} \Leftrightarrow \Delta \mathbf{B} .$$

The formal structure of theories of the CED is generally more complex than this. Weber's claim, for example, that Protestant asceticism influences entrepreneurship (1905; see § 3.5.2 and § 7.3) can be formalised as:

$$\mathbf{T5.2}^* \quad \Delta \mathcal{N}_{\text{protestantism}} \Rightarrow^w \Delta \mathcal{B}_{\text{entrepreneurship}} ,$$

which can be read as: more Protestant values (non-institutionalised rules) weakly causes more entrepreneurship (or entrepreneurial behaviour). Similarly, Marx's thesis that 'Die Gesamtheit dieser Produktionsverhältnisse bildet die ökonomische struktur der Gesellschaft, die reale Basis, worauf sich ein juristischer und politischer Überbau erhebt' (Marx 1859, pp. 8-9; see § 3.4.1) can be formalised as:

$$\mathbf{T5.3}^* \quad \Delta \mathcal{P}_{\text{production}} \Rightarrow^s \Delta \mathcal{I}_{\text{legal/political}} ,$$

which can be read as: changes in the patterns (most importantly: institutions) of production determine changes in legal and political institutions. Note that Marx's and Engels's theories of the CED were broader and more complicated than T5.3* suggests (hence, the asterisk). (In sections 7.2 and 7.3, respectively, the Marxian and Weberian theories of the CED will be analysed more extensively, which will result in more comprehensive formal translations.)

5 / 4 / summary

The building blocks or primitives of social reality are behavioural events and meta-behavioural rules, concepts, and so forth. \mathbf{B} is the set of (all) behavioural events; \mathbf{M} is the set of (all) meta-behavioural entities. The concept of "meta-behaviour" itself is defined as everything non-individual that influences or determines behaviour. Within both sets \mathbf{B} and \mathbf{M} subsets can be distinguished (see box 5.1 and § 5.2.2). These subsets are bound either trivially or conceptually. As concepts are meta-behavioural entities, a conceptually bound subset is a meta-behaviourally bound subset. "Culture" and "economy" can be defined as

(combinations of) subsets of \mathbb{M} and \mathbb{B} . Box 5.2 presents the most important interpretations in these terms:

box 5.2: *most important interpretations of "culture" and "economy"*

<p>"culture" = \mathbb{M} "culture" $\subset \mathbb{M}$ "culture" = $\mathbb{M} - \mathcal{I}$ "economy" = \mathbb{B}_{PCD} "economy" = $\mathcal{V}(\mathbb{B}_{\text{PCD}}) = \Sigma \textit{value}(\mathbb{b}_{\text{PCD}})$ "economy" = $\mathcal{I}_{\text{PCD}} \therefore \text{"economy"} \subset \mathcal{I} \subset \mathbb{M}$</p>
--

In the CED, culture and economy (or aspects thereof) are related to each other in weaker or stronger causal relationships symbolised by \Rightarrow^w for a weak causal relationship ("influences") and \Rightarrow^s for a strong causal relationship ("(co-)determines"). Different strengths and directions of these relationships can be combined. $A \overset{s}{\Leftarrow}^w B$, for example, means that A is strongly caused (co-determined) by B while, the other way around, A weakly causes (influences) B. The relationship, however, is not directly between culture and economy but between changes in aspects thereof. The symbols Δ and \triangleleft represent undirected change or difference and directed change or difference respectively. Hence. $\Delta A \Rightarrow \Delta B$ means that a change or difference in A will cause a change or difference in B, $\triangleleft A \Rightarrow \triangleleft B$ means that more A will result in more B. (Note that $\forall A, B [\triangleleft A \Rightarrow \triangleleft B \rightarrow \Delta A \Rightarrow \Delta B]$.) Combining all types of symbols in an example: $\Delta \mathbb{M} \Rightarrow^s \triangleleft \mathbb{B}$ is a formal representation of the thesis that differences in meta-behaviour (co-)determine differences in behaviour. The next chapter deals with the operationalisation and measurement of a number of the interpretations of "culture" and "economy" presented in box 5.2.

chapter 6

OPERATIONALISATION AND MEASUREMENT

When you can measure what you are speaking about, and express it in numbers, you know something about it; but when you cannot measure it, when you cannot express it in numbers, your knowledge is of a meagre and unsatisfactory kind: it may be the beginning of knowledge, but you have scarcely, in your thoughts, advanced to the stage of science, whatever that may be.

Lord Kelvin 1883, pp. 73-74

To put matters bluntly, many of us have literally not known what we are talking about, or have confused our listeners – and ourselves – into thinking that what we are talking about is directly relevant to the matters with which we are concerned.

Robert Eisner 1989, p. 2

6 / 1 / introduction

One of the main goals of this research project is comparison and testing of theories of the culture - economy dialectic (CED) (see chapters 1 and 7). For comparison, a common language is needed. This common language was developed in the preceding chapter. For testing theories of the CED it is necessary to make this common language operational and to measure the phenomena referred to by its categories. Hence, this chapter deals with operationalisation and measurement of culture and economy.

Measurement is associated with a number of philosophical and technical problems (e.g. Schwager 1988; Suppes 1998; Trout 2000). The most fundamental problem is that a measurement – as a quantitative representation of a (specific) phenomenon – suggests the existence and/or relevance of such a phenomenon. Measurements may, however, represent different things than we think they do, and measurements may be devised (unknowingly) to measure nothing more than a construct in which case they (generally) have little empirical relevance. Eisner (1989) pointed at these problems when he said that 'many of us have literally not known what we are talking about' (p. 2; more fully quoted above) in his presidential address to the American Economic Association. A second fundamental

problem is the question of relevant scales (discrete, ratio, interval, ordinal, etc.). Different phenomena and different measurement procedures require and/or imply different scales. Categorized events are discrete and hence, can be easily counted. This, however, is not the case for more complex variables such as length, culture or economic growth.

Especially when measurement of social phenomena is attempted, these problems are important. Conceptual analysis should always precede measurement to explore what exactly the measurement should refer to. Questions about scale can rarely be answered by conceptual analysis alone: they also depend on the measurement procedure. Moreover, many (supposed) social phenomena cannot be observed or measured directly. These, however, can sometimes be measured by means of factor analysis (FA) or similar techniques, although the application thereof comes with problems of its own.

These problems must be dealt with in measuring the phenomena referred to in the CED. The next two sections deal with measuring culture (§ 6.2) and with economic measures such as measures of wealth, growth and entrepreneurship (§ 6.3). The final section of this chapter (§ 6.4) compares the measures derived with the theoretical / conceptual framework proposed in the preceding chapter.

6 / 2 / meta-behavioural measures

In most definitions of "culture" and in most applications of the concept in the CED, "culture" is more or less synonymous with meta-behaviour or a subset thereof (see § 5.2.4). Hence, measuring meta-behaviour is measuring culture. Meta-behaviour, however, cannot be measured *directly* (see § 5.2.1). There is no machine that measures values, rules, concepts and/or institutions. Nevertheless, meta-behaviour *can* be measured. The concept was introduced in subsection 4.3.3 as shorthand for the 'things' that guide behaviour and elaborated on in section 5.2. Meta-behaviour is some deeper structure that is reflected in actual behaviour. Hence, meta-behaviour can (to some extent) be derived from actual behaviour:

cultural differences can be measured indirectly; that is, they can be inferred from data about collective behavior, such as the way a country's national wealth is distributed over its population; the mobility from one social class to another; or the frequency of political violence or labor conflicts, traffic accidents, or suicides. All of these can tell us something about a country's culture, but it is not always clear how they should be interpreted. (Hofstede & Bond 1988, pp. 8-9)

The most obvious technique to do this indirect measurement by inference from (actual) behaviour is factor analysis (FA), which was introduced a century ago by Spearman (1904)

to find underlying 'factors' that explain the different test results in a study on intellectual abilities. The technique was based on the analysis of matrices of correlations. Since then, FA was further developed into the sophisticated statistical technique it is today, but its basic objective remains the same: to find a small set of underlying factors to explain a variety of types of behaviour. This idea of fundamental, unobservable factors underlying observable indicators, however, is much older (e.g. Hägglund 2001), but FA was the first technique to measure these unobservable factors with statistical means. As this is exactly what is needed to measure culture or meta-behaviour indirectly, FA will have an important place in this section.

Theoretical and quantitative empirical research on the basic 'factors' of culture or meta-behaviour has been done mainly in cross-cultural psychology (CCP). Subsection 3.5.2 dealt with CCP and dimensions of culture very briefly. Subsection 6.2.1 will go deeper into the subject. Subsection 6.2.2 focuses on the measurement of regional culture or meta-behaviour in the Netherlands. By means of FA, a small number of dimensions of meta-behaviour is measured for 487 municipalities (two missing). Subsection 6.2.3, finally, compares the measures derived in subsection 6.2.2 with earlier measures and deals briefly with alternative and more specific measures of aspects of culture, institutions and/or meta-behaviour.

6 / 2 / 1 / cross-cultural psychology and national culture

Cross-cultural psychology (CCP) is rooted in Steintal's and Lazarus's *Völkerpsychologie* (see § 3.3.2), itself strongly influenced, like all comparative sciences of culture, by Vico's (1725/44) philosophy of history. CCP originated from a cross-pollination of *Völkerpsychologie*, psychology of personality and anthropology (e.g. Murphy & Kovach 1928/72). The psychology of personality was especially influential in the new discipline. Benedict (1935) showed that personality is formed by dominant values and attitudes of the group or culture one is part of. CCP assumes that these dominant values and attitudes are a particular social group's answers to a small set of basic problems:

First it is assumed that there is a limited number of common human problems for which all peoples at all times must find some solution. This is the universal aspect of value orientations because the common human problems to be treated arise inevitably out of the human situation. The second assumption is that while there is variability in solutions of all the problems, it is neither limitless nor random but is definitely variable within a range of possible solutions. The third assumption (...) is that all alternatives of all solutions are present in all societies at all times, but are differentially preferred. (Kluckhohn & Strodtbeck 1961, p. 10)

In CCP practice, therefore, culture is not defined as the whole of meta-behaviour \mathbb{M} , but as the set of most basic value orientations \mathcal{N}_{CV} , which is a subset of \mathcal{N} , itself a subset of \mathbb{M} (see § 5.2.2). \mathcal{N}_{CV} is the set of core values societies develop in answer to Kluckhohn and Strodtbeck's 'common human problems'. Different psychologists and anthropologists (and other social scientists) suggested different \mathcal{N}_{CV} , but there is considerable overlap.

According to Boas (1911), there are three basic aspects of culture:

- (B1) man - nature relationships (note that "man" is used here and below to refer to people or mankind in general, not to male persons);
- (B2) man - man relationships; and
- (B3) subjective aspects such as ethics, aesthetics and religion.

Inkeles and Levinson (1954) distinguished three or four key problems:

- (IL1) self-image, which can be split up into
 - (IL1a) male - female and
 - (IL1b) individual - group relationships;
- (IL2) how people deal with authority; and
- (IL3) how people deal with conflict and emotion.

Kluckhohn and Strodtbeck (1961) asserted that there are five basic 'orientations':

- (KS1) human nature orientation (is man naturally good or evil?);
- (KS2) man - nature orientation;
- (KS3) time orientation;
- (KS4) activity orientation; and
- (KS5) relational orientation.

The founder of cultural theory, Douglas (1992) suggested two dimensions of culture:

- (D1) *group*, the extent to which an individual is part of a social unit, and
- (D2) *grid*, the extent to which an individual's life is influenced by externally imposed rules.

Inglehart and Baker (2000) also proposed a two-dimensional system:

- (IB1) traditional - rational and
- (IB2) survival - self-expression.

Kasulis (2002) even reduced cultural differences to a single dimension, intimacy - integrity, that summarises how people deal with relationships. The (opposite) record in distinguishing cultural factors is probably held by Grondona (2000), who proposed as many as twenty.

Without a doubt, the most influential measurement of dimensions of culture was Hofstede's (1980; 1991). In fact, Hofstede's dimensions proved to be that popular that they secured his place in the top 10 of most quoted social scientists ever. Hofstede's dimensions of culture are based on a survey among IBM personnel in the late 1960s and early 1970s in over 60 countries (see map 6.1) and . His (original) four dimensions:

- (1) power distance (PDI);
- (2) individualism (IDV);
- (3) masculinity (MAS); and
- (4) uncertainty avoidance (UAI),

are very similar to Inkeles's and Levinson's. (See above and table 6.2 in subsection 6.2.2.) Map 6.2 shows the ranking of European countries (for which data is available) on these four dimensions.

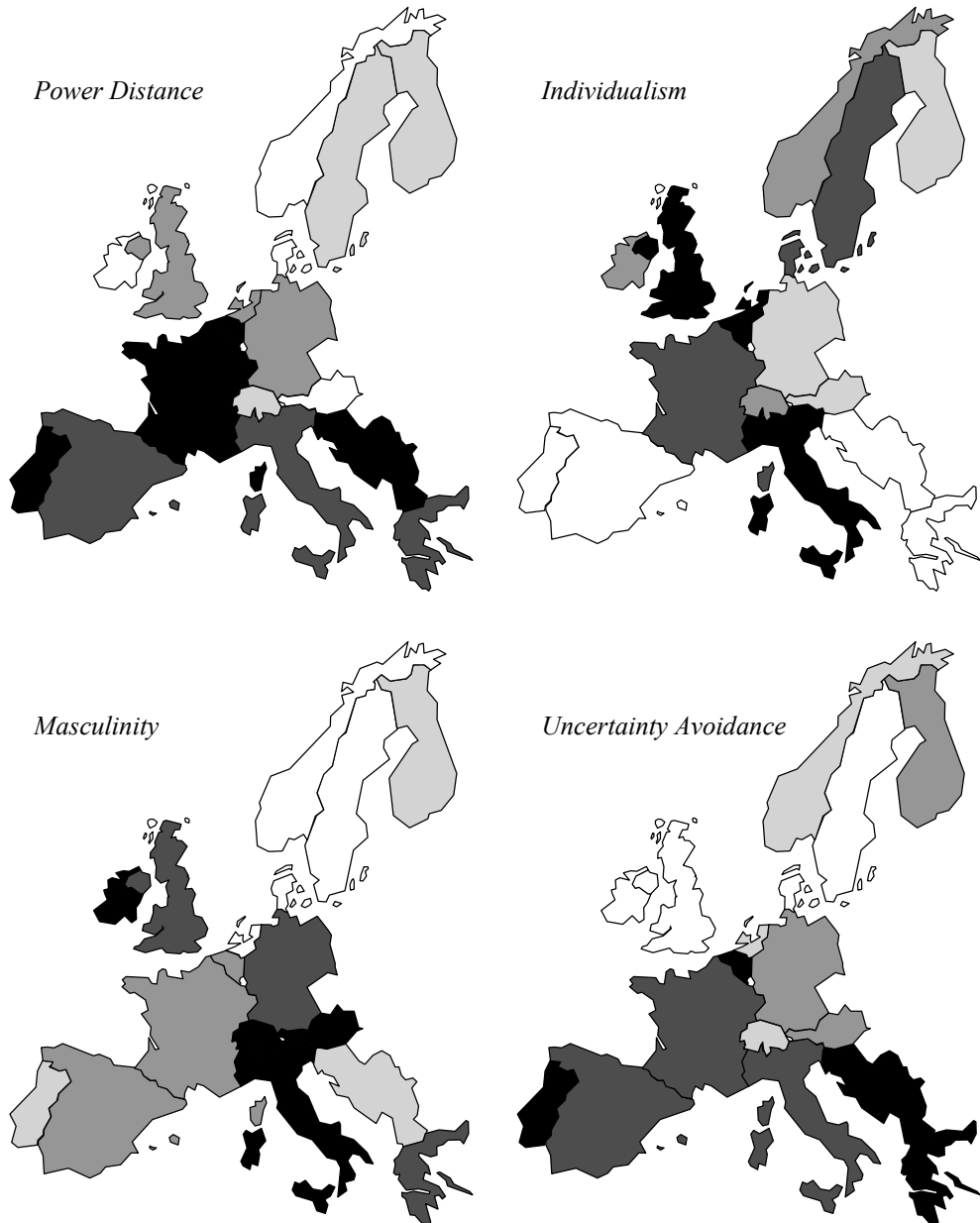
Later a fifth dimension (based on different research and in a much smaller set of countries) was added: (5) long-term orientation (LTO) (or Confucian dynamic (CONDYN)) (Hofstede & Bond 1988; Hofstede 1991). Hofstede's dimensions facilitated an explosion of empirical research in the CED, including some by himself (*e.g.* Franke, Hofstede & Bond 1991). A small selection of Hofstede-inspired research projects will be evaluated with in the next chapter.

map 6.1: national cultures measured by Hofstede



Dark grey countries included; light grey countries aggregated in three groups (Arab countries; West Africa; East Africa). Source: Hofstede 1991.

map 6.2: Hofstede's dimensions (Europe, ca. 1970)



17 countries divided in quintiles (4/3/3/3/4); white countries score lowest; black countries score highest. Source: Hofstede 1991.

Hofstede's measurements have been criticised by scientists from different fields and backgrounds. While Hofstede argues that the quality of his measurements is improved by the uniformity of the population (IBM employees), because this uniformity minimises all non-cultural difference, Schwartz (1994), for example, points out that (1) IBM employees differ significantly from the general population in education and interests; and (2) IBM employees have a very different (social) background and status in third-world countries than in Western countries. The first of these points was recognised by Hofstede, who answered by claiming that because IBM employees from different countries are more similar to each other than their general populations, the scores of countries on his dimensions are in reality probably more extreme than measured (Hofstede & Bond 1988). (See also Harzing & Hofstede 1996 for Hofstede's answer to some of his critics.)

A considerable part of the critique on Hofstede is related to his dimensions, especially to the dimension of individualism - collectivism (*e.g.* Voronov & Singer 2002). According to Hofstede, collectivism is (defined as) a low value on the individualism dimension. Tiessen (1997), for example, claims that individualism and collectivism are different, independent dimensions. Yeh and Lawrence (1995) point out that Hofstede's individualism is not the kind of individualism traditionally associated with independence, competitiveness and entrepreneurship, but a selfish, egotistic and short-sighted kind of individualism. It seems that there are many types and subtypes of individualism.

Similarly, there seem to be many variants of the masculinity - femininity dimension. The most obvious aspect of this dimension is the position of women in society, but there are other aspects that may be completely unrelated. For example, the degree to which typically male or female values are dominant in a social group, in which case the masculinity - femininity dimension can be interpreted as, for example, a competition - co-operation dimension.

Although Hofstede's dimensions are the most influential, they are not the only measures of culture. Schwartz (1994), for example, distinguishes seven dimensions:

- (s1) conservatism,
- (s2) affective autonomy,
- (s3) intellectual autonomy,
- (s4) hierarchy,
- (s5) mastery,
- (s6) egalitarian commitment, and
- (s7) harmony.

Of these seven dimensions, at least three seem to be related to some kind of individualism: (s2) affective autonomy; (s3) intellectual autonomy; and (s5) mastery. Nevertheless, the correlations between these measures and Hofstede's individualism do not seem to be particularly strong (see table 6.1).

In the 1970s Inglehart proposed a further dimension of culture: post-materialism. Post-materialist cultures are more focused on self-development and self-expression, creativity, 'belongingness', and so forth (Inglehart 1977; 1990; 1997). It is measured by Inglehart,

Basañez and Moreno (1998) and also seems to be strongly related to Hofstede's individualism. Post-materialism also seems to overlap with Schwartz's (s2) affective autonomy; (s3) intellectual autonomy; and (s5) mastery. However, these correlations too are rather weak (see table 6.1).

table 6.1: *correlations between dimensions of culture*

	PDI	IDV	MAS	UAI							
IDV	-0.68										
MAS	0.06	0.08									
UAI	0.23	-0.33	-0.03		Scon	Saau	Siau	Shie	Smas	Segc	Shar
Scon	0.55	-0.57	-0.02	-0.31							
Saau	-0.49	0.46	-0.08	0.22	-0.74						
Siau	-0.42	0.54	0.13	0.23	-0.73	0.63					
Shie	0.37	-0.54	0.11	-0.10	0.43	-0.24	-0.49				
Smas	0.27	-0.17	0.53	0.28	0.00	0.02	-0.33	0.38			
Segc	-0.42	0.51	-0.26	0.30	-0.72	0.31	0.37	-0.64	-0.20		
Shar	-0.26	0.22	0.08	0.61	-0.38	0.15	0.57	-0.62	-0.44	0.45	
p-mat	-0.44	0.53	-0.13	-0.10	-0.57	0.37	0.33	-0.33	-0.33	0.65	0.06

PDI = power distance; IDV = individualism; MAS = masculinity; UAI = uncertainty avoidance. Source: Hofstede (1991).

Scon = conservatism; Saau = affective autonomy; Siau = intellectual atonomy; Shie = hierarchy; Smas = mastery; Segc = egalitarian commitment; Shar = harmony. Source: Schwartz (1994).

p-mat = post-materialism. Source: Inglehart Basañez and Moreno (1998).

Number of countries / cases: N(Hofstede-Schwartz) = 22; N(Hofstede-Inglehart) = 26; N(Schwartz-Inglehart) = 18.

While Hofstede's and Schwartz's measures are based on survey research, Inglehart's is constructed from a wealth of secondary data (indicator variables). Generally, survey data is available only for relatively small sets of territorial entities (e.g. states; regions). As these are the cases in statistical testing and significance partly depends on the number of cases, survey data is often unsatisfactory (if available). Moreover, most survey data is on the national level, which is not without its problems. Most important are (1) national differences in measurement procedures and (2) institutional differences between countries (see also § 6.3). Outcomes of research on the CED on the national level may be influenced more by these national differences in measurement and institutions than by actual culture - economy interactions. Moreover, empirical research by (a.o.) Inglehart and Baker (2000) has shown that, for example, religious differences tend to disappear behind (other) national differences (see also § 7.4.2).

Alternatively, one could attempt to measure the basic dimensions of culture or meta-behaviour on smaller spatial scales such as municipalities. This kind of measurement has to

be indirect, as the required sample size in a survey would raise the costs to astronomical heights, but it would avoid both problems of the national level mentioned above. Moreover, the choice for a smaller regional unit may also reveal information on the spatial scale(s) of the CED. Thus far, cultural differences and their causes and effects are only studied on (inter-) national scales, while it is entirely possible that different relationships (or none at all) exist on different spatial scales.

The next subsection presents a measurement by means of FA of five dimensions for 487 Dutch municipalities (2 missing).

6 / 2 / 2 / indirect measurement of regional culture

Indirect measurement by FA can be based on any territorial scale for which sufficient data is available. Each variable must be measured in the same way for each territorial unit (case). An abundance of uniformly measured and rigorously defined data on Dutch municipalities is freely available at Statistics Netherlands (www.cbs.nl). Hence, the Netherlands seem to be a good candidate for measuring regional culture. Moreover, there are two additional reasons to select the Netherlands for this analysis: (1) within the Netherlands, although it is a rather small country, some very distinct cultural regions such as the Catholic South and the *Protestantenband* (Protestants Belt) can be distinguished; and (2) this research project was carried out by a Dutchman at a Dutch university.

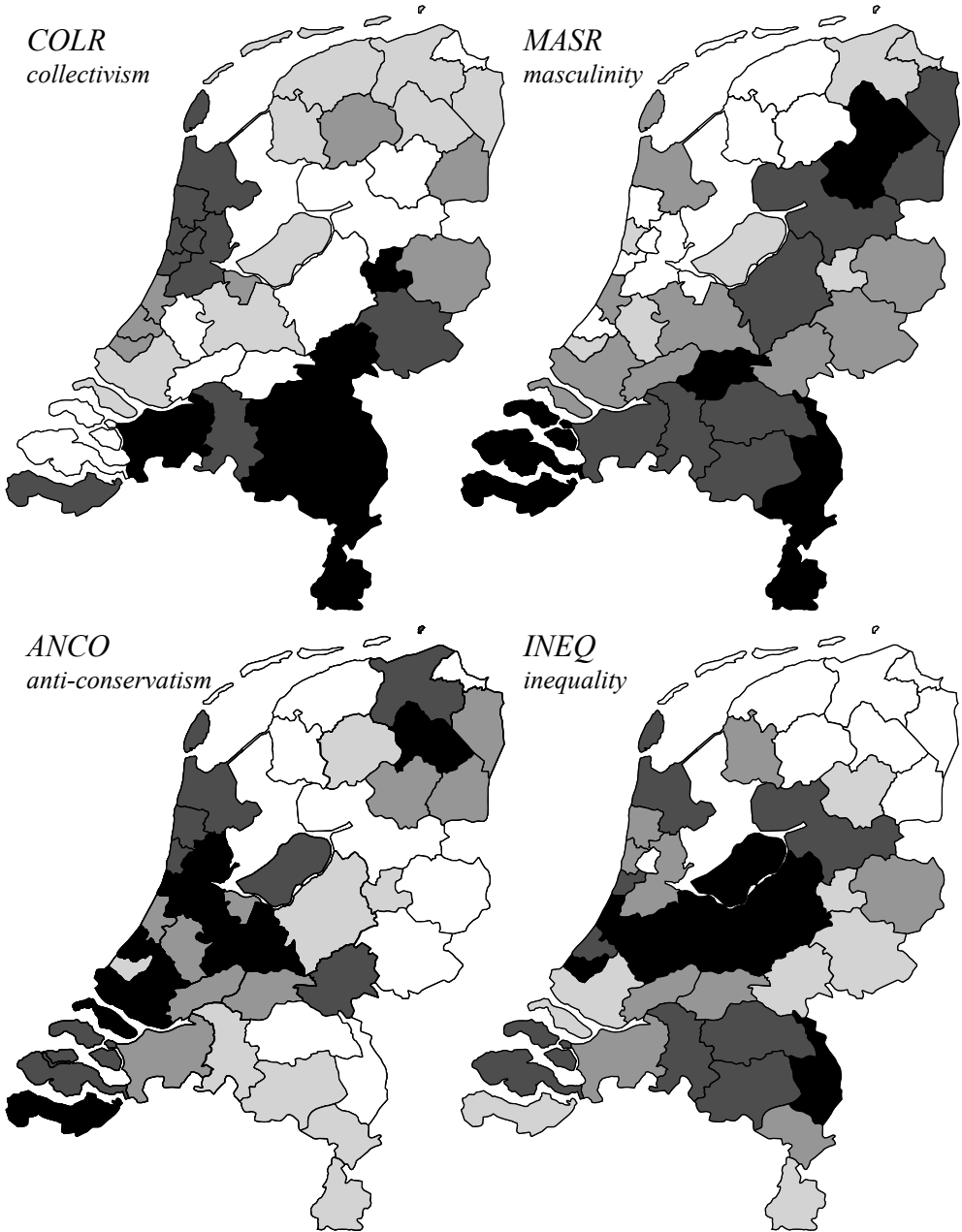
Dutch regional culture has been measured in a number of (very) different ways: qualitatively, as 'regional nations' within the Netherlands (de Pater 2002), and quantitatively. Examples of the latter include Serlie (2004), van Leeuwen and Vullings (2004) and Brons (2002; 2004), an earlier study similar to this one. Serlie (2004) found, for example, that people from the North of the Netherlands are more introverted and more emotionally unstable than those from the South. Van Leeuwen and Vullings (2004) mapped several indicators of regional cultural, political and economic differences including tradition, social cohesion and religions.

In 2000 Dutch regional culture was measured in an approach similar to what will be done later in this subsection (Brons 2002; 2004). Both the number of cases and the number of variables, however, was relatively small. A principal components analysis (PCA; a technique similar to FA) on eleven variables and forty cases (Corop-regions) resulted in four dimensions of regional culture, interpreted, with some difficulty, as:

- (1) collectivism (COLR);
- (2) masculinity (MASR);
- (3) anti-conservatism (ANCO); and
- (4) tolerance for inequality (INEQ) (Brons 2002; 2004).

Map 6.3 shows the ranking of Dutch Corop-regions on these four dimensions. Ttable 6.2 compares this measurement to both Hofstede's and Inkeles's and Levinson's dimensions.

map 6.3: regional culture (Netherlands, 1997-1999)



40 Corop regions divided in quintiles; white regions score lowest; black regions score highest.
Source: Brons 2002; 2004.

table 6.2: *a comparison of dimensions*

Inkeles & Levinson (1954)	Hofstede (1980; 1991)	Brons (2002; 2004)
male - female (IL1a)	masculinity (MAS)	masculinity (MASR)
individual - group (IL1b)	individualism (IDV)	collectivism (COLR)
authority (IL2)	power distance (PDI)	inequality (INEQ)
emotion and conflict (IL3)	uncertainty avoidance (UAI)	anti-conservatism (ANCO)

a new measurement

In the measurement presented in this chapter, the number of cases was increased to all 489 Dutch municipalities. However, for two small municipalities (Wijdemerren and Wester Koggenland) some data was missing. In the first steps of the analysis, all available data that could in some way reflect culture or meta-behaviour was included. Hence, all data on phenomena that are (or may be) related to decisions and types or patterns of behaviour (rules, values, customs, etc.) was included. This implied that there was left relatively little data unused (excluded variables were related to sickness and death mainly). Hence, the data selected was related to \mathbb{P} , while $\mathbb{M} = \mathbb{P} \cup \mathbb{C} \cup \mathbb{T}$ (see figure 5.3). However, as was explained in subsection 5.2.1, it is rather difficult to distinguish the effects of the different parts ($\mathbb{P}, \mathbb{C}, \mathbb{T}$) of meta-behaviour in the determination of behaviour. Actual behavioural data used in this analysis is not necessarily influenced by \mathbb{P} (alone), but may also be the result of other parts of meta-behaviour.

For each variable, all available data from the period 1997 to 2003 was selected. In this period, over 100 municipalities merged or changed their borders. Hence, the initial data matrix was approximately 600 by 400 cells. Averaging all years for the same variables and recalculating all data to the municipalities of 2003 resulted in the final data matrix of 489 cases and eighty variables (including some interaction effects, composite variables and variables for testing in chapter 7). These eighty variables are presented in table 6.3.

Election data is weighted to reflect the importance of different elections. Some smaller parties did not take part in all elections. For this reason, some combined party variables (P.prog and P.prtt) were added. Table 6.4 specifies the weights for the weighted average election data. Although most of the variables presented in table 6.3 can be indicators of aspects of culture, some of them represent aspects of the other pole in the CED and are used for testing in chapter 7 and for controlling cultural factors measured in this chapter for non-cultural influences. These variables are marked in the column 'test' in table 6.3. The other variables, and how these may relate to aspects of culture are, explained below.

table 6.3: *list of variables*

abbrev.	description	FA	PCA	test
1 B.totl	average number of life births per inhabitant (1997-2002)	X		
2 B.aage	average age of mothers of newly-borns (1997-2002) (original data in 5-year classes; calculation by class middles)	X	X	
3 B.pa25	average number of life births by mothers younger than 25 divided by total number of life births (1997-2002)	X	X	
4 B.pa30	average number of life births by mothers between ages 25 and 30 divided by total number of life births (1997-2002)	X		
5 B.pa35	average number of life births by mothers between ages 30 and 35 divided by total number of life births (1997-2002)	X		
6 B.pa40	average number of life births by mothers older than 35 divided by total number of life births (1997-2002)	X	X	
7 B.outm	average number of life births by unmarried mothers divided by total number of life births (1997-2002)	X	X	
8 D.accd	average (×1000) number of deaths caused by accidents per inhabitant (1997-2002) (original data for different years rounded off to multiples of five)	X		
9 D.trac	average (×1000) number of deaths caused by road traffic accidents per inhabitant (1997-2002) (original data for different years rounded off to multiples of five)	X		
10 D.murd	average (×1000) number of deaths caused by murder per inhabitant (1997-2002) (original data for different years rounded off to multiples of five)	X		
11 D.suic	average (×1000) number of suicides per inhabitant (1997-2002) (original data for different years rounded off to multiples of five)	X		
12 E.ainc	average standardised income (in 1000s of euros) (1998-2000)			X
13 E.strt	average (×1000) number of newly founded enterprises divided by the labour force (2001-2002)			X
14 E.estb	average (×1000) number of established enterprises divided by the labour force (2001-2002)			X
15 E.linc	average percentage of households with low incomes (1999-2000)			X
16 E.ltli	average percentage of households with long term low incomes (1999-2000)			X
17 E.hinc	average percentage of households with high incomes (1999-2000)			X
18 F.mncl	percentage of women in municipal councils after 2002 local elections	X		
19 F.aldm	percentage of female aldermen after 2002 local elections	X		
20 H.avsz	average household size (2000-2003)	X	X	
21 H.onep	average percentage of one-person households (2000-2003)	X	X	
22 H.lpar	average percentage of one-parent households (2000-2003)	X	X	
23 H.nmcp	average percentage of non-married couples (households) (2000-2003)	X		

table 6.3 – continued

24	H.nmnk	av. percentage of non-married couples (households) without kids (2000-2003)	X	X
25	H.nmkd	av. percentage of non-married couples (households) with kids (2000-2003)	X	X
26	H.3kid	average percentage of household with three or more kids (2000-2003)	X	X
27	L.para	average total labour participation (1997-2002)	X	
28	L.parm	average labour participation of men (1997-2002)	X	
29	L.parw	average labour participation of women (1997-2002)	X	
30	L.prrt	labour participation sex ratio (L.parm divided by L.parw)	X	
31	L.lfhe	average percentage higher educated in labour force (municipalities larger than 10.000 inhabitants) (1997-2002)		X
32	L.lfle	average percentage lower educated in labour force (municipalities larger than 10.000 inhabitants) (1997-2002)		X
33	M.totl	average (×1000) number of marriages per inhabitant (1997-2002)	X	
34	M.aget	average age of marriage (1997-2002) (original data in 5-year classes; calculation by class middles)	X	X
35	M.agem	average age of marriage of men (1997-2002) (original data in 5-year classes; calculation by class middles)	X	
36	M.agew	average age of marriage of women (1997-2002) (original data in 5-year classes; calculation by class middles)	X	
37	M.agrt	marriage age difference between sexes (M.agem divided by M.agew)	X	
38	M.agdf	marriage age difference between sexes (M.agem minus M.agew)	X	
39	M.av25	average (×1000) number of marriages of men and/or women younger than 25 divided by the total number of marriages (1997-2002)	X	X
40	M.pm25	average (×1000) number of newly-wed men younger than 25 divided by the total number of marriages (1997-2002)	X	
41	M.pw25	average (×1000) number of newly-wed women younger than 25 divided by the total number of marriages (1997-2002)	X	
42	M.rt25	young marriage sex ratio (M.pm25 divided by M.pw25)	X	
43	M.pm30	average (×1000) number of newly-wed men younger than 30 divided by the total number of marriages (1997-2002)	X	
44	M.pw30	average (×1000) number of newly-wed women younger than 30 divided by the total number of marriages (1997-2002)	X	
45	M.divr	average (×1000) number of divorces per inhabitant (1997-2002)	X	X
46	P.turn	weighted av. of turnout in elections in 2002 and 2003 (see below for weights)	X	X
47	P.cons	weighted average of percentages of votes for the Christian conservative party (CDA) in elections in 2002 and 2003 (see below for weights)	X	X
48	P.cnpr	conservative protestantism (P.cons × S.pprt)	X	
49	P.cnct	conservative catholicism (P.cons × S.pcat)	X	
50	P.cnnr	non-religious conervatism (P.cons × S.ppub)	X	

table 6.3 – continued

51	P.libc	weighted average of percentages of votes for the liberal conservative party (VVD) in elections in 2002 and 2003 (see below for weights)	X	X
52	P.libd	weighted average of percentages of votes for the liberal democratic party (D66) in elections in 2002 and 2003 (see below for weights)	X	X
53	P.scdm	weighted average of percentages of votes for the social democratic party (PvdA) in elections in 2002 and 2003 (see below for weights)	X	X
54	P.sdri	social democratic votes not explained by (low) income (residual of P.scdm after regression on E.ltli)	X	
55	P.socl	weighted average of percentages of votes for the socialist party (SP) in elections in 2002 and 2003 (see below for weights)	X	X
56	P.grlf	weighted average of percentages of votes for the green party (GroenLinks) in elections in 2002 and 2003 (see below for weights)	X	X
57	P.prog	weighted average of percentages of votes for the progressive / leftist parties (SP, GroenLinks, Groenen, PvdD, local and regional leftist parties) in elections in 2002 and 2003 (see below for weights)	X	X
58	P.prt1	weighted average of percentages of votes for orthodox Protestant party, Christenunie, in elections in 2002 and 2003 (see below for weights)	X	X
59	P.prt2	weighted average of percentages of votes for orthodox Protestant party, SGP, in elections in 2002 and 2003 (see below for weights)	X	X
60	P.prtt	weighted average of percentages of votes for orthodox Protestant parties (Christenunie and SGP) in elections in 2002 and 2003 (see below for weights)	X	X
61	P.prd1	weighted average of percentages of votes for political reform movement party, LPF, in elections in 2002 and 2003 (see below for weights)	X	X
62	P.prd2	weighted av. of percentages of votes for political reform movement party, Leefbaar Nederland, in elections in 2002 and 2003 (see below for weights)	X	X
63	P.regp	percentage of votes for regional parties in provincial elections of 2003	X	
64	P.locl	percentage of votes for local parties in municipal elections of 2002	X	
65	S.pprt	av. percentage of primary school students in Protestant schools (1997-2000)	X	X
66	S.tprt	average percentage of (primary and secondary school) students in Protestant schools (1997-2000)	X	
67	S.pcat	av. percentage of primary school students in Catholic schools (1997-2000)	X	X
68	S.tcat	average percentage of (primary and secondary school) students in Catholic schools (1997-2000)	X	
69	S.porg	average percentage of primary school students in schools with other religious affiliations (1997-2000)	X	X
70	S.torg	average percentage of (primary and secondary school) students in schools with other religious affiliations (1997-2000)	X	
71	S.ppub	average percentage of primary school students in public schools (1997-2000)	X	X

table 6.3 – continued

72	S.tpub	average percentage of (primary and secondary school) students in public schools (1997-2000)	X
73	U.inhb	absolute number of inhabitants (2003)	
74	U.ppds	population density (2003)	
75	U.adds	address density (2003)	
76	U.hsds	housing density (2003)	
77	U.durb	degree of urbanisation (2003); principal component scores after PCA on U.ppds (loading: 0.94); U.adds (0.96); U.hsds (0.96); U.inhb (0.757); 82,1 % of variance explained.	X
78	U.imgr	percentage of non-Western immigrants (2003)	
79	U.rimg	share of immigrants not explained by degree of urbanisation: residual of U.imgr after regression on U.ppds; U.adds; U.hsds; and U.inhb; ($R^2=0.766$)	X
80	X.trsh	average quantity (kilos) of household trash (per inhabitant) (2001-2002)	X

marked **X** in column FA = used in factor analysis; ~ PCA = used in principal components analysis; ~ test = included for testing (mainly in chapter 7)

table 6.4: weights for weighted average election variables in table 6.3

	GR 2002	PS 2003	TK 2002	TK 2003
P.turn		1	1	1
P.cons	1	2	3	3
P.libc	1	2	3	3
P.libd	1	2	3	3
P.scdm	1	2	3	3
P.socl		2	3	3
P.grlf		2	3	3
P.prog	1	2	3	3
P.prt1			1	1
P.prt2			1	1
P.prtt	1	2	3	3
P.prd1		1	2	1
P.prd2			2	1

GR = *Gemeenteraad* (municipal council); PS = *Provinciale Staten* (provincial parliament); TK = *Tweede Kamer* (national parliament)

indicators of regional culture

As quoted before, 'cultural differences can be measured indirectly; that is, they can be inferred from data about collective behavior' (Hofstede & Bond 1988, p. 8). By means of FA, it might be possible to find the meta-behavioural factors behind the behavioural data. A question open for debate is what is actually measured by FA. The basic idea of FA is that it measures some more deeply underlying structure behind the measured variables. Hence, a FA on behavioural variables is a measurement of the more deeply underlying structure explaining the behavioural differences, in one word: meta-behaviour \mathbb{M} . However, the approach is linked closely to CCP, which, in practice, defines culture as the set of core values \mathcal{N}_{CV} , a subset of \mathbb{M} (see § 6.2.1). It is, moreover, difficult to otherwise interpret the factors resulting from FA than as dimensions of core value orientations. Hence, while an FA may measure \mathbb{M} , or at least that part of \mathbb{M} which is related to the actual behaviour \mathbb{B} which is used as input in the analysis, its results are interpreted as \mathcal{N}_{CV} .

To measure culture or meta-behaviour indirectly, specific behavioural variables have to be identified as indicators of specific cultural dimensions. In a series of tables, Hofstede (1991) suggested 114 correlates or indicators of dimensions of culture, but many more are possible. Indirect measurements of culture by means of FA or similar techniques are based on, or at least interpreted, by means of cross-tabs in which nothing is entirely clear. The rows are the variables selected, the columns the dimensions of culture, and the individual cells are the supposed relationships between these. The problem is that there is no agreement about how many and/or what dimensions of culture there are, and that relatively little of the supposed relationships between these dimensions and actual behaviour have actually been researched. Moreover, the nature of these relationships is not entirely clear. Are they causal or conceptual? Does, for example, individualism lead to postponement of childbirth or is the latter a kind of behaviour that is conceptually associated with individualism? If the latter is the case, as is claimed by Winch (1958) and many others (see § 2.2.2), empirically researching relationships between aspects of behaviour and meta-behaviour makes no sense and the relationships between the dimensions and the indicator variables should be clarified by conceptual analysis. Generally, relationships between actual behaviour and supposed, hidden, meta-behaviour need repeated confirmation. A single indicator for a meta-behavioural or cultural dimension is insufficient. Only if several results point in the same direction, a cultural dimension may be postulated.

In the cross-tabs used for explaining indicator signs and factor interpretation below, seven dimensions of culture have been selected:

- (1) individualism vs. collectivism (I-C; Hofstede 1991);
- (2) power distance (PD; Hofstede 1991);
- (3) masculine vs. feminine values (M-F; Hofstede 1991);
- (4) uncertainty avoidance (UA; Hofstede 1991);
- (5) conservatism (CN; Schwartz 1994);
- (6) post-materialism (PM; Inglehart 1977);
- (7) dissatisfaction (DS; Wildeman *et al.* 1999).

This list of dimensions, however, is not all-inclusive; neither are these dimensions completely independent or uncorrelated. The first four dimensions are those proposed by Hofstede (1980) and are related to the theoretical dimensions distinguished by Inkeles and Levinson (1954). The individualism - collectivism dimension (I-C) may be the most basic dimension of culture. It is the most debated and researched dimension at least. Theoretically, it overlaps with a number of Schwartz's dimensions (see § 6.2.1), especially intellectual and affective autonomy and mastery, which are not included. Hofstede's power distance (PD) is theoretically (but not empirically; see table 6.1) very similar to Schwartz's hierarchy. The masculine - feminine dimension (M-F) may include several aspects here (and in the work of Hofstede) combined in a single dimension (see § 6.2.1). Schwartz's dimension of egalitarian commitment is theoretically (but again not empirically; see table 6.1) related to the feminine pole of M-F and to low PD.

Uncertainty avoidance (UA) is probably the most complex dimension of culture distinguished by Hofstede. It is about the way people deal with conflict, change, emotions, fear, and so on. It is related, but not identical, to conservatism (CN), which is also included mainly because it is more easily interpretable. Inglehart's post-materialism (PM) is included – although it may be a specific combination of individualism (high I-C), femininity (low M-F); and low UA – because it seems to describe a current trend in cultural change pretty well (see also § 7.2). Dissatisfaction (DS), finally, is included because in empirical research by Wildeman *et al.* (1999), it proved to be very important as a determinant of entrepreneurship. DS, may, however, be strongly (and positively) related to UA. (Wildeman *et al.* distinguish two kinds of dissatisfaction; due to the limited number of indicators of this dimension these are combined here.)

Several of the dimensions listed and described here and in subsection 6.2.1 do not reflect a single, clearly limited type of behaviour. Rather in the contrary, I-C and M-F, for example, are combinations of many aspects or sub-dimensions of meta-behaviour that are not necessarily part of the same dimension in every population. Moreover, an indicator variable may be differently related (positively versus negatively) with different aspects or sub-dimensions. Therefore, the aspects or sub-dimensions may be regrouped differently in a new empirical analysis.

Below, the relationships between the variables presented in table 6.3 and the dimensions described above are explained briefly. The indicator variables are divided in three groups: (1) demographic indicators (birth, death, marriage and households); (2) political or electoral indicators; and (3) religious and other indicators. (Note that in all tables used for explaining indicator signs and factor interpretation, dimensions are in columns and indicators in rows.) In the tables below, plus and minus symbols are used to indicate strength and direction of the assumed or expected relationships. For each relationship between an indicator variable and an aspect or sub-dimension of one of the dimensions, one or two symbols are added; two symbols if the relationship is particularly strong or important; one otherwise. Hence, the number of pluses and minuses in the cells reflects the relative strength and importance of that indicator on that dimension.

demographic indicators

Although many demographic phenomena are supposed to be related to culture, there is relatively little empirical research thereon (a notable exception is Sobotka's and Adigüzel's (2002) study on the influence of religion on demographic behaviour in the Netherlands). It is generally assumed that women in individualist cultures (high I-C) postpone births and have fewer children, while women in collectivist (low I-C), conservative (high CN), and/or uncertainty avoiding (high AU) cultures have many children and start childbearing earlier.

table 6.5: *demographic indicators of culture: birth and death*

	I-C	PD	M-F	UA	CN	PM	DS
B.totl	-		+	+	+		
B.aage	++		-		-	+	
B.pa25	--		+	+	+	-	
B.pa30				+	+		
B.pa35	+						
B.pa40	++						
B.outm	+				-		
D.accd			+	+			
D.trac	-		+	+			
D.murd			+	+			
D.suic			+	+			+

I-C = individualism (+) vs. collectivism (-); PD = power distance; M-F = masculine (+) vs. feminine (-); UA = uncertainty avoidance; CN = conservatism; PM = post-materialism; DS = dissatisfaction. See table 6.3 for abbreviations of indicator variables.

The direct opposite event of birth – death – does not seem to be related to culture, but causes of death may be. Suicides, accidents (in general and traffic accidents in particular) and murders all seem related to high UA. In the case of suicides, it is the aspect of fear in UA that is important; in the other cases, the higher levels of expressiveness and aggression in cultures with high UA. Suicide is, of course, also related to dissatisfaction.

Like postponement of birth, postponement of marriage is associated with individualism (high I-C). Larger age differences between newly-wed men and women may be an indicator of (a kind or aspect of) masculinity (high M-F). The number of divorces is related to (*a.o.*) I-C and DS. Of course, variables on household size are strongly related to variables on birth. Hence, the indicator signs are very similar. Large numbers of one-person households and unmarried households are indicators of individualism (high I-C) and PM.

table 6.6: *demographic indicators of culture: marriage and households*

	I-C	PD	M-F	UA	CN	PM	DS
M.totl	-			+	+		
M.aget	+			-	-	+	
M.agem	+			-	-		
M.agew	++		-	-	--	+	
M.agrt			++				
M.agdf			++				
M.av25	-			+	+	-	
M.pm25	-			+	+		
M.pw25	--		+	+	++	-	
M.rt25			++		+		
M.pm30	-			+			
M.pw30	-			+			
M.divr	+			+/-	-		+
H.avsz	-				+	-	
H.onep	++				-	+	
H.1par	++				--	+	
H.nmcp	+			-	--	+	
H.nmnk	++			-	--	+	
H.nmkd				-	-	+	
H.3kid	-			+	++		

See tables 6.3 and 6.5 for abbreviations.

political indicators

Political or electoral indicators of regional culture have to be analysed with caution. They can only be meaningful if one assumes that voting behaviour is at least partly determined by an overlap between the values of the voter and the (perceived values of the) party. In other words: it is assumed that voters vote for parties they feel are closest to their personal values. Of course, these personal values are co-determined by the (regional) culture they are (and/or were) part of – hence, voting behaviour may partly reflect cultural values.

The Christian conservative party, CDA, represents high UA, high CN and, in the form of a positive valuation of respect, authority, power and punishment, high PD. The CDA was formed in the 1970s from three parties with (very) different religious, political and cultural backgrounds. For this reason, three interaction effects were calculated: Protestant conservatism (P.cons); Catholic conservatism (P.cnct); and not explicitly religious conservatism (P.cnnr). These three indicator variables have slightly different signs on the different dimensions of culture.

There are two liberal parties in the Netherlands: the liberal conservative VVD and the liberal democratic D66. Both are very strong indicators of high I-C, but differ in other respects. The liberal democratic focus on environment and democratisation points at low M-F, low UA, and low PD. The conservatism and market ideology of the liberal conservatives, on the other hand, represents very high M-F and high CN.

Social democracy and socialist egalitarianism reflects (very) low PD and (also very) low M-F. Voters for the social democratic party from different backgrounds may, however, represent different cultures. Relatively poor voters may be more collectivist, while the relatively rich voters (P.sdri) are more individualist and (much) more post-materialist.

The environmentalist party, GroenLinks, is the most post-materialist party in the Netherlands. Its voters probably also score high on I-C and very low on M-F. Because data for the environmentalist and socialist parties is not available for all elections, but combined data is, this is added as well (P.prog).

The orthodox Protestant parties, ChristenUnie and SGP, score very high on UA. The most important difference between the ChristenUnie and the SGP is that voters for the latter probably score much higher on M-F than voters for the ChristenUnie (for two reasons: (1) the SGP does not allow women as party members; and (2) the ChristenUnie more strongly favours environmentalism and democracy). Because both parties are relatively small, there is no data available for all elections, but combined data is, and is therefore included (P.prtt).

In the parliamentary elections of 2002, a new political movement in the Netherlands arose. Its leader, Pim Fortuijn, was killed less than two weeks before the elections in which his party was the biggest winner (from 0 to 26 seats in the 150-seat parliament). His party, the LPF, and the ideologically associated (and also new) party LN thrived mainly on dissatisfaction and a strong aversion of politics and the ruling parties and politicians, which reflects high UA (to a lesser extent, this is also true for the socialist party (P.socl)). The nationalism of the LPF (and also of the VVD, see above) points at high M-F.

In regional and local elections, a number of independent regional or provincial and local parties took part. Regionalism is associated with high M-F and low UA, while voters for the local parties seem to be more dissatisfied and more averse to the ruling parties (high UA), but also more regionalist (low UA) and more democratic (low PD). Low turnout, finally, may reflect DS and an aversion to politics, which is associated to high UA.

table 6.7: *political indicators of culture*

	I-C	PD	M-F	UA	CN	PM	DS
P.turn				-			-
P.cons		+	++/-	++++	++	-	
P.cnpr	+	+	+	++++	++	-	
P.cnct	-	++	-	+++	+	-	
P.cnr			+	++++	+++	-	
P.libc	++		++++	+++/-	++	--	
P.libd	++	-	+/-	--			
P.scdm	+/-	--	--	+/-	-		
P.sdri	+	--	---		-	++	
P.socl	-	+/-	--	+	-		
P.grlf	+	-	----	+/-	-	++	
P.prog		-	---	+	-	+	
P.prt1	+/-		++/-	+++	+		
P.prt2	+/-		+++	+++	+		
P.prtt	+/-		++	+++	+		
P.prd1	+		++	+++/-	++		++
P.prd2	+			+++/-			+
P.regp			+	-			
P.loc1		-		+/-			+

See tables 6.3 and 6.5 for abbreviations.

religious and other indicators

Religion is often considered to be one of the core aspects of culture. Different religions have different values and norms. Catholicism is more collectivist and feminine, while Protestantism is more individualist and masculine. In general, religious people are more conservative and more uncertainty-avoiding than non-religious people. Unfortunately, religious affiliation is no longer recorded in the Netherlands (except in surveys, which, however, does not result in reliable data on the municipal level). However, the religious affiliation of schools is, and as the number of students in each school is known, this may be a good proxy. (In regions where there are relatively few adherents to a specific religion, using this proxy may suggest that all of these adherents are more concentrated than they are in reality as religious minority schools in these regions generally have students from (much) more municipalities than the one they are located in.)

table 6.8: *religious indicators of culture*

	I-C	PD	M-F	UA	CN	PM	DS
S.pprt / S.tprt	++	+/-	+	++	+	-	
S.pcat / S.tcat	-	+	-	+	+		
S.porg / S.torg				+	+	-	
S.ppub / S.tpub	+	-					

See tables 6.3 and 6.5 for abbreviations.

Some other variables, not in any of the groups above, may shed some further light on regional culture. A high percentage of female aldermen and women in local councils may reflect low M-F, while a high ratio of male labour participation and female labour participation points at high M-F. The quantity of household garbage, finally, may be a negative measure of environmental conscience, hence high M-F and low PM.

table 6.9: *other indicators of culture*

	I-C	PD	M-F	UA	CN	PM	DS
F.mncl			--				
F.aldm			--				
L.pprt			++		+		
X.trsh			+			-	

See tables 6.3 and 6.5 for abbreviations.

dimensions of culture

As mentioned before, the dimensions selected for tables 6.5 to 6.9 are not completely independent from each other. To test how much they overlap, their correlations can be calculated. This is done by subtracting the number of minuses from the number of pluses in each cell. The indicator variables then are the cases and the dimensions are the variables between which correlations are measured. The resulting correlations are presented in table 6.10, which shows, as expected, that UA and CN are strongly correlated and that CN is negatively correlated to PM. None of the correlations, however, is high enough to suggest that this specific dimension is superfluous. On the other hand, it may be the case in the analyses below that these dimensions are not specific enough to interpret the factors derived.

table 6.10: *correlations between dimensions*

	I-C	PD	M-F	UA	CN	PM
PD	-0.189					
M-F	-0.011	0.435				
UA	-0.241	0.403	0.296			
CN	-0.387	0.377	0.465	0.684		
PM	0.151	-0.446	-0.326	-0.488	-0.558	
DS	0.237	-0.043	0.085	0.119	0.005	-0.187

I-C = individualism (+) vs. collectivism (-); PD = power distance; M-F = masculine (+) vs. feminine (-); UA = uncertainty avoidance; CN = conservatism; PM = post-materialism; DS = dissatisfaction.

measurement procedure and results

The measures of regional culture presented below are not derived from a single FA on the whole data set. The starting point were the sixty-five variables marked **X** in the column FA in table 6.3. In a series of FAs, indicator variables were excluded one after the other if no factor had a loading over 0.4 for that variable, or if there was a factor that had a loading over 0.4 for that variable (alone) but below 0.3 for all other variables. Interaction effects (variables calculated from two or more other variables) were also excluded if their loadings were almost equal (difference smaller than 0.05) to at least one of the variables they were derived from (hence, if they added no information), which resulted, in fact, in the exclusion of all interaction variables.

box 6.1: *excluded variables*

B.totl	D.suic	L.parw	M.agdf	P.cnpr	S.tprt
B.pa30	F.mncl	L.prrt	M.pm25	P.cnct	S.tcat
B.pa35	F.aldm	M.totl	M.pw25	P.cnnr	S.torg
D.accd	H.nmcp	M.agem	M.rt25	P.sdri	S.tpub
D.trac	L.para	M.agew	M.pm30	P.regp	U.inhb
D.murd	L.parm	M.agrt	M.pw30	P.locl	X.trsh

There is a number of possible factor extraction methods in FA, differently applicable to different data sets and different questions. Often mentioned as an extraction technique, principal components analysis (PCA) is, strictly speaking, not a form of FA, but a related technique. The main difference between FA and PCA is that in PCA the total variance in all variables is used in the analysis, while in FA only the variance common in variables is used. This makes FA more applicable to the first exploratory steps in the analysis and PCA more applicable for finding the underlying dimensions of the final data set. (The extraction technique used in the initial exploratory steps was Unweighted Least Squares.)

After the exploratory FAs, a set of twenty-nine indicator variables was left. A PCA of this set of variables resulted in five factors (or principal components, actually) or dimensions (see table 6.11 for variance explained). The rotation method chosen in this final analysis was Promax ($\kappa=2$) (see table 6,12 for factor correlation matrix). This rotation method was chosen for two reasons. Firstly, there is no reason to assume that dimensions of regional culture are uncorrelated, and hence, orthogonal rotation seems inappropriate. Secondly, Promax rotation creates a relatively simple structure in the factor loading matrix as it tends to result in most variables having a strong loading on only one factor.

In the remainder of this subsection these five factors are interpreted and mapped.

table 6.11: *variance explained*

factor	% of variance	cumulative %
1	36.4	36.4
2	17.9	54.3
3	12.2	66.5
4	6.8	73.3
5	6.1	79.5

table 6.12: *factor correlation matrix*

	1	2	3	4
2	-0.163			
3	0.004	-0.138		
4	0.273	0.000	0.145	
5	0.170	-0.008	-0.006	0.008

factor 1

The first factor (or principal component) explains 36.4% of variance. It is, hence, by far the most important dimension of regional differences in meta-behaviour in the Netherlands. Table 6.13a shows the relationships between the indicator variables with the highest absolute factor loadings and the seven dimensions. (In case of negative loadings, pluses and minuses are reversed.) High scoring indicator variables include the number of one-person households, votes for progressive parties and the number of children born outside of marriage.

table 6.13a: *factor 1: loadings (>0.5) and indicators*

indicator	loading	I-C	PD	M-F	UA	CN	PM	DS
H.onep	0.873	++				-	+	
H.avs2	-0.872	+				-	+	
P.prog	0.847		-	---	+	-	+	
P.grlf	0.808	+	-	-----	+/-	-	++	
B.outm	0.770	+				-		
H.1par	0.746	++				--	+	
M.divr	0.745	+			+/-	-		+
H.3kid	-0.709	+			-	--		
P.socl	0.692	-	+/-	--	+	-		
P.cons	-0.602		-	+/--	-----	--	+	
P.libd	0.555	++	-	+/--	--			
H.nmnk	0.549	++			-	--	+	
P.scdm	0.510	+/-	--	--	+/-	-		

See tables 6.3 and 6.5 for abbreviations.

Table 6.13a shows that the first factor is related to individualism, feminine values, anti-conservatism and post-materialism. Because the first three of these are typical characteristics of post-materialism, the latter seems to be the most appropriate interpretation and label for this dimension. Map 6.4 shows the ranking of Dutch municipalities on this dimension (or factor). Table 6.13b shows the correlations higher than 0.4 to excluded (see box 6.1) and secondary variables. Secondary variables are included mainly for testing in chapter 7 but are also of interest here to determine whether factors are the product of cultural or other differences. In this case, table 6.13b shows that factor 1 is correlated to the degree of urbanisation (see map 6.5), the percentage of people with long-term low incomes and the level of education. The first and third are typically associated with post-materialism; the second is strongly related to the degree of urbanisation and may therefore be related to this factor indirectly. The only excluded indicator variable in table 6.13b (L.prrt) strengthens the interpretation of factor 1 as post-materialism. Therefore, hereafter, factor 1 will be referred to as post-materialism, abbreviated PMA.

table 6.13b: *factor 1: selected correlations (>0.4) to excluded and secondary variables*

variable	ρ	I-C	PD	M-F	UA	CN	PM	DS
U.durb	0.680							
E.ltli	0.572							
L.prrt	-0.486			--		-		
L.lfhe	0.470							

See tables 6.3 and 6.5 for abbreviations.

As the degree of urbanisation (see map 6.5) and related correlates (or causes) of post-materialism interfere with regional differences, further analysis is necessary to reveal possible regional differences in this dimension. Stepwise regression resulted in the regression model presented in table 6.14. The residual of this regression is abbreviated PMA-R and is mapped in map 6.6. (As there is no data on L.lfhe for municipalities with less than 10,000 inhabitants, there are seventy-nine missing cases in map 6.6.)

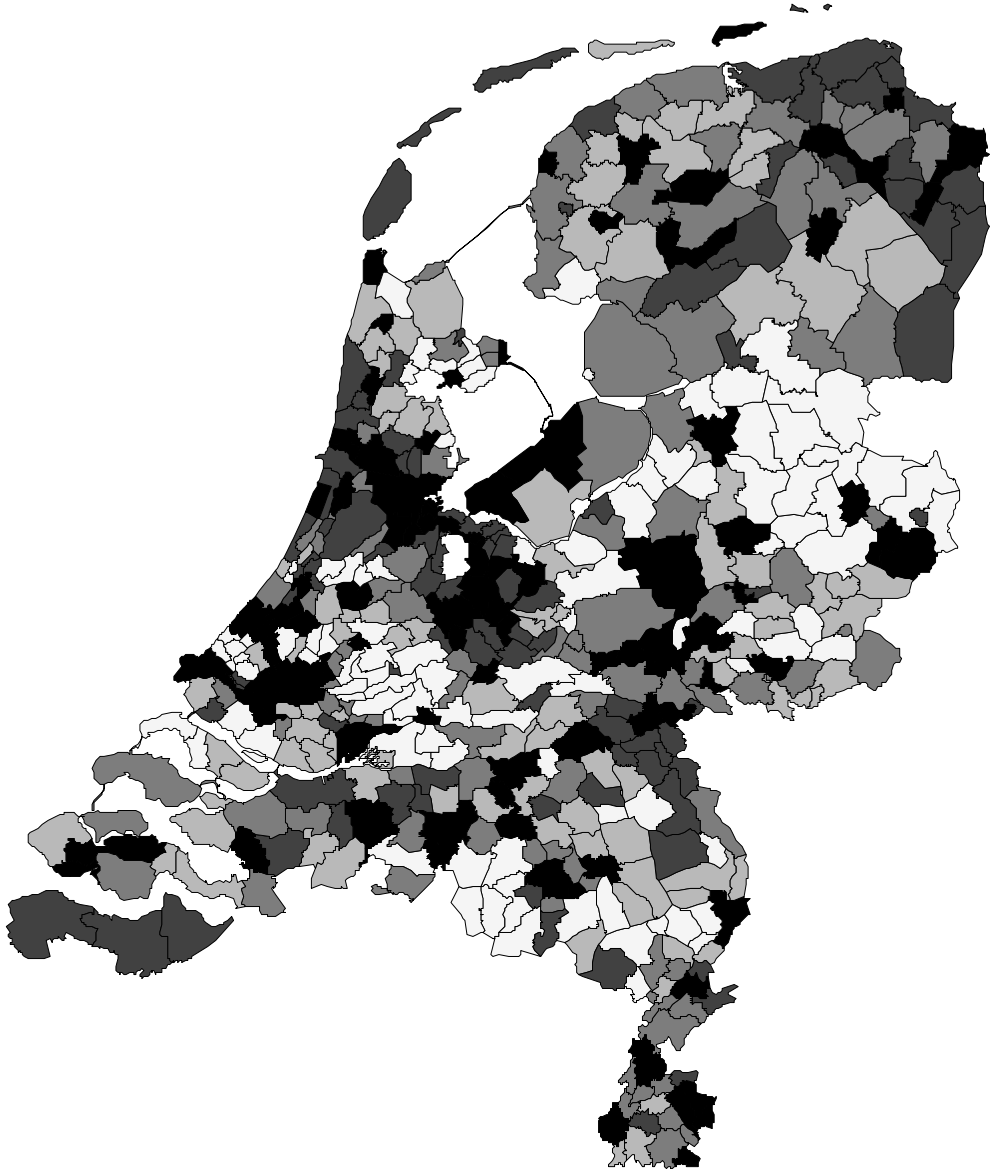
table 6.14: *regression of PMA on U.durb, L.lfhe, and E.ltli*

	SC	sig.
U.durb	0.371	0.000
L.lfhe	0.360	0.000
E.ltli	0.496	0.000
R ²	0.715	

SC = standardised coefficient; sig. = significance.

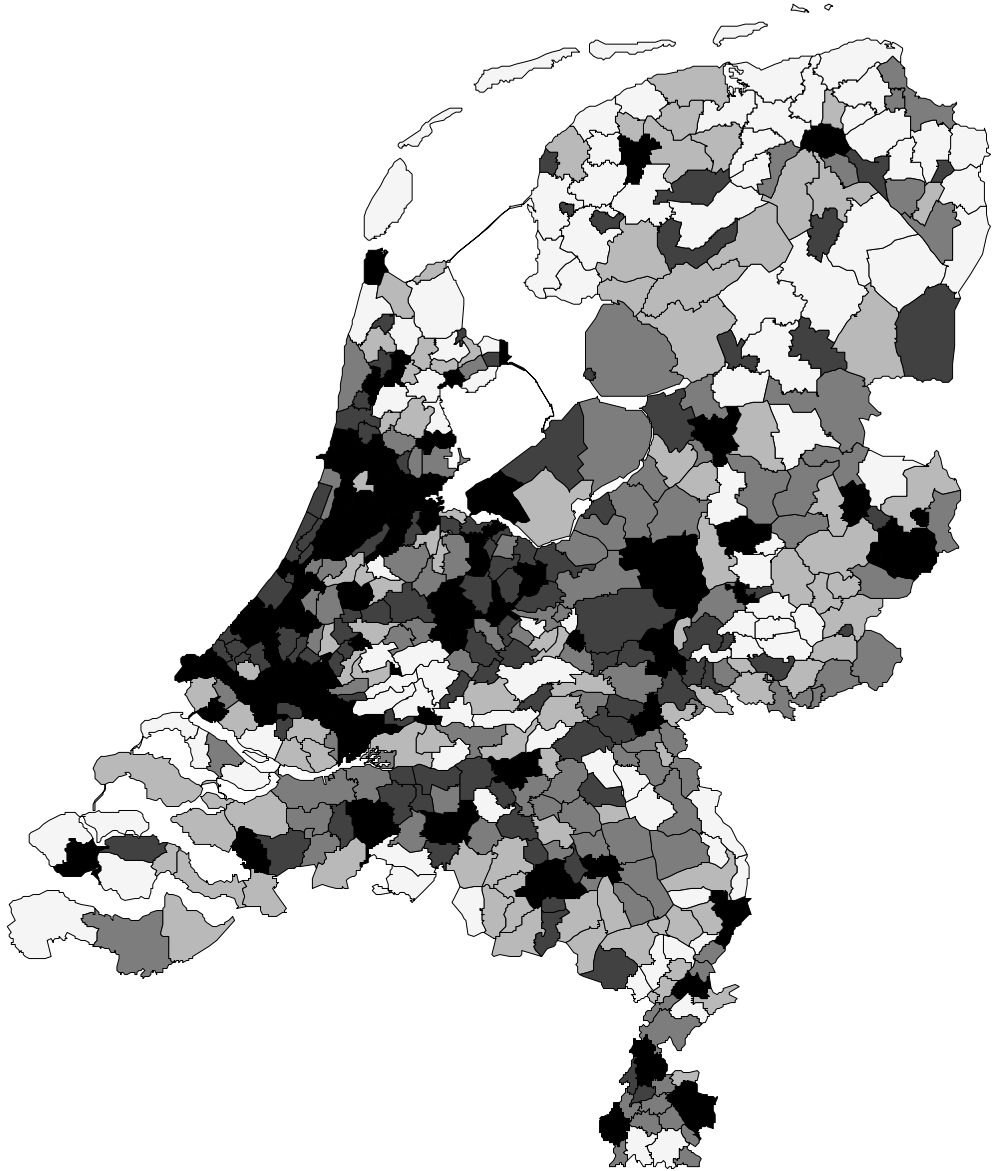
Map 6.6 shows a far more distinct regional pattern than map 6.4. Clearly, in map 6.6, there are lighter coloured (less post-materialist) areas in the (middle) west (the province of Zuid Holland) and the south-east (part of the province of Noord Brabant), and there is a lighter coloured 'belt' from the (middle) east to the (middle) north (the provinces of Overijssel and Friesland).

map 6.4: *factor 1: post-materialism (PMA; Netherlands, 1997-2003)*



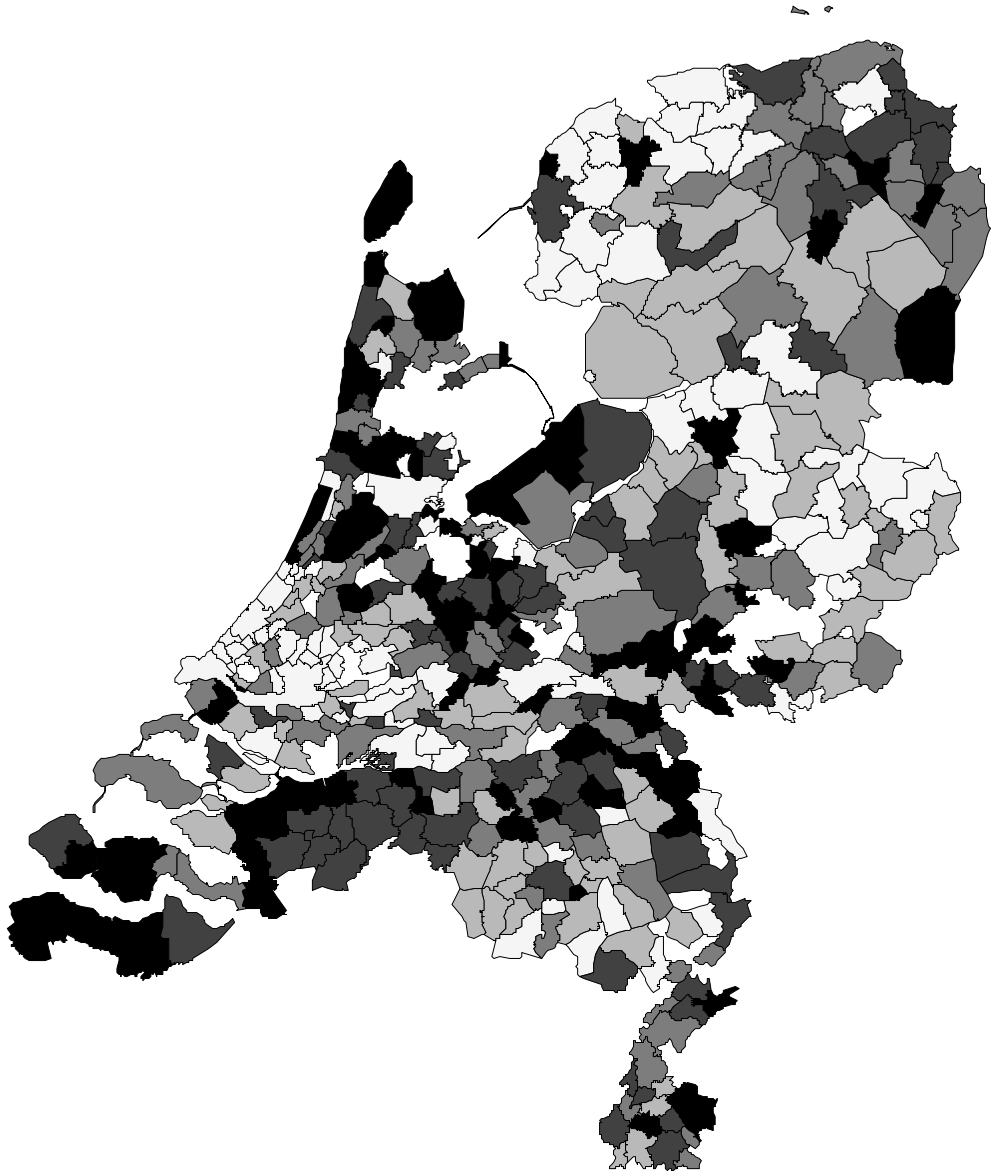
487 municipalities (2 missing) divided in quintiles; light-grey areas score lowest; black areas score highest. White areas: missing data. See text on measurement procedure.

map 6.5: *degree of urbanisation (U.durb; Netherlands, 2003)*



489 municipalities divided in quintiles; light-grey areas score lowest; black areas score highest. See text on measurement procedure.

map 6.6: *residual of factor 1 (PMA-R; Netherlands, 1997-2003)*



410 municipalities (79 missing) divided in quintiles; light-grey areas score lowest; black areas score highest. White areas: missing data. Residual after regression of PMA on U.durb, L.lfhe, and E.lti. See text on measurement procedure.

factor 2

The second factor explains 17.9% of variance and seems to be most strongly related to religion (Protestantism especially). Other indicators with high factor loadings include marriage and childbearing at young ages. Table 6.15a shows strong relationships to conservatism and the related dimensions of uncertainty avoidance and masculinity. Therefore, it seems appropriate to interpret this factor or dimension as Protestant conservatism (abbreviated PRC; see map 6.7).

table 6.15a: factor 2: loadings (>0.5) and indicators

indicator	loading	I-C	PD	M-F	UA	CN	PM	DS
P.prtt	0.935	+ / -		++	+++	+		
S.pprt	0.861	++	+ / -	+	++	+	-	
P.prt2	0.838	+ / -		+++	+++	+		
P.prt1	0.807	+ / -		++ / -	+++	+		
M.av25	0.801	-			+	+	-	
S.pcat	-0.691	+	-	+	-	-		
H.nmnk	-0.559	--			+	++	-	
B.pa25	0.552	--		+	+	+	-	

See tables 6.3 and 6.5 for abbreviations.

The correlations to excluded variables presented in table 6.15b reinforce this interpretation. Especially the low labour participation of women (both absolute and relative to the labour participation of men) points at the male dominance typical of orthodox Protestantism.

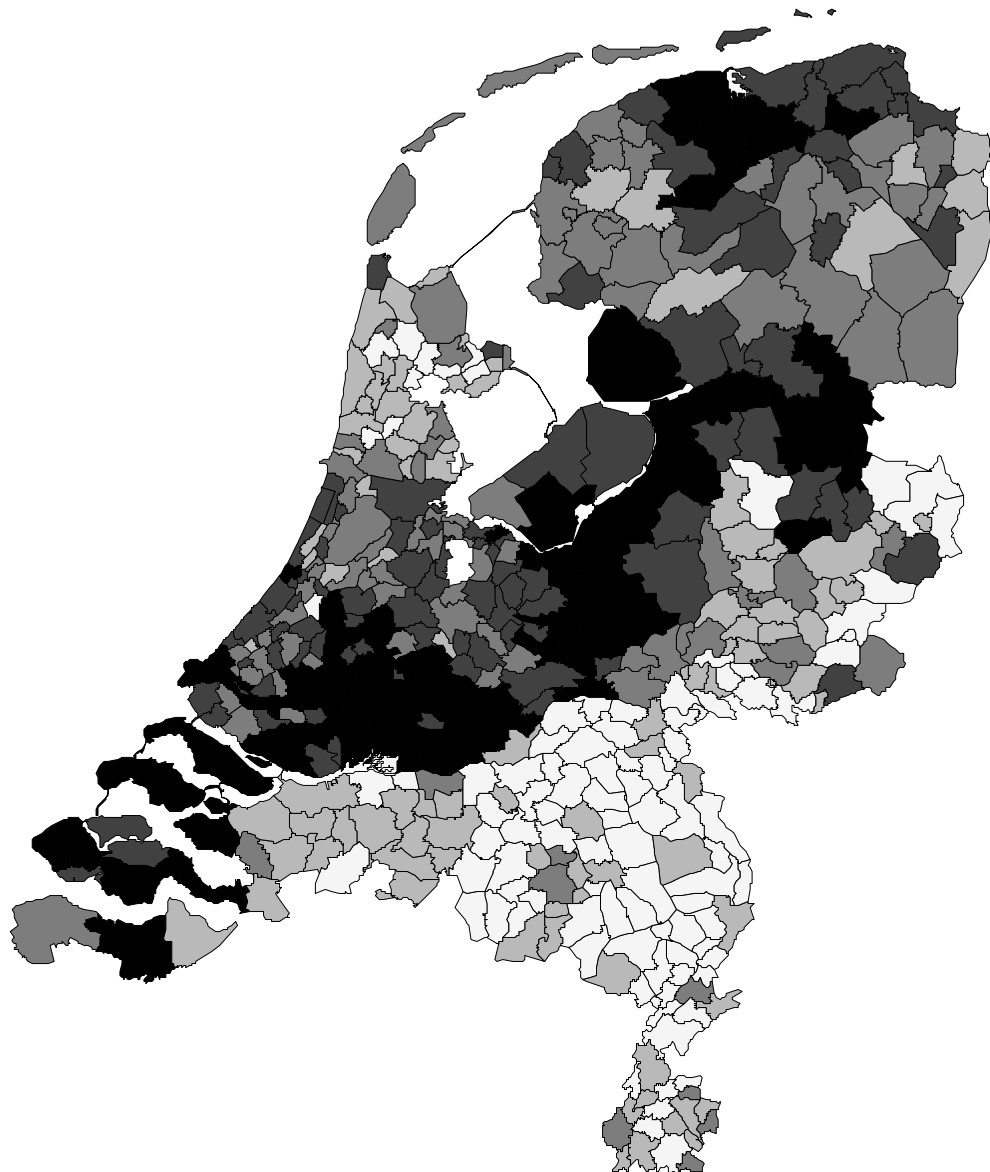
table 6.15b: factor 2: correlations (>0.4) to excluded variables

variable	ρ	I-C	PD	M-F	UA	CN	PM	DS
L.prrt	0.509			++		+		
P.locl	-0.422		+		+ / -			-
L.parw	-0.403			++				

See tables 6.3 and 6.5 for abbreviations.

Map 6.7 clearly shows the 'Protestantenband' (Protestants belt), the black and dark grey belt from the south west to the north east, and the Catholic (light grey) south.

map 6.7: *factor 2: Protestant conservatism (PRC; Netherlands, 1997-2003)*



487 municipalities (2 missing) divided in quintiles; light-grey areas score lowest; black areas score highest. White areas: missing data. See text on measurement procedure.

factor 3

The third factor – explaining 12.2%, of variance – has very high loadings on indicator variables that are related to classical individualism. Hence, factor 3 is interpreted as individualism and labelled accordingly (abbreviated IND; see map 6.8). The main difference between this type of individualism and that measured in factor 1 is that the latter is more associated with self-expression, while classical individualism is more about personal freedom and is more materialistic and more egotistic. Postponement of birth and marriage are typical of this kind of classical individualism, as are high percentages of votes for liberal parties. The latter, however, is also strongly correlated to income.

table 6.16a: *factor 3: loadings (>0.5) and indicators*

indicator	loading	I-C	PD	M-F	UA	CN	PM	DS
B.pa40	0.907	++						
B.aage	0.849	++		-		-	+	
P.libc	0.801	++		++++	+++ / ---	++	--	
M.aget	0.732	+			-	-	+	
P.libd	0.647	++	-	+ / --	--			
B.pa25	-0.543	++		-	-	-	+	

See tables 6.3 and 6.5 for abbreviations.

table 6.16b: *factor 3: correlations (>0.4) to secondary variables*

variable	ρ
E.ainc	0.846
L.lfhe	0.672
E.lti	-0.412

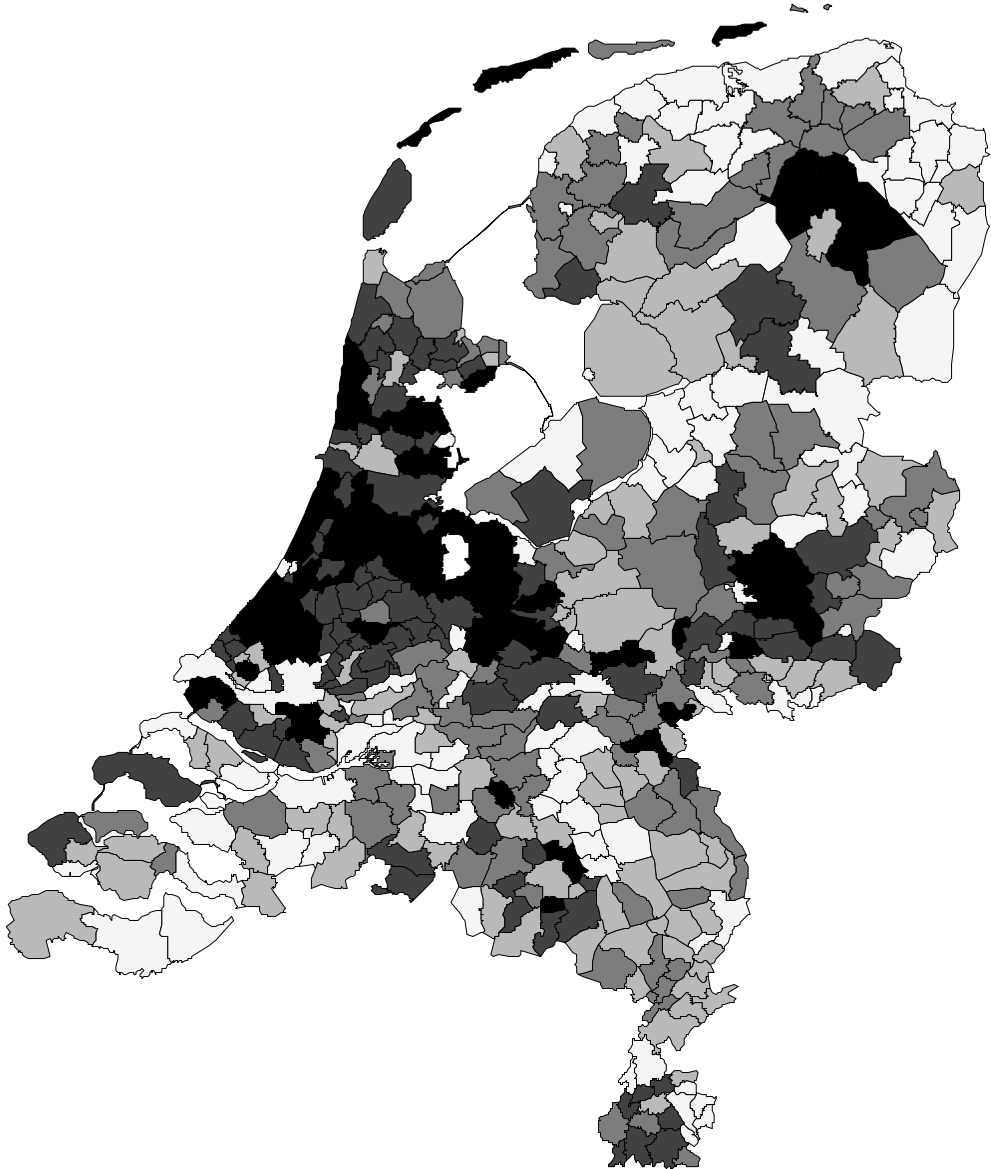
Indeed, table 6.16b shows that factor 3 is strongly correlated to average income and to education. This influence like the degree of urbanisation in factor 1, can be controlled for by regression analysis. Stepwise regression resulted in the model presented in table 6.17. The residual is labelled IND-R and is mapped in map 6.9, which shows that classical individualism, corrected for income and education, is strongest in the north.

table 6.17: *regression of IND on E.ainc and L.lfhe*

	SC	sig.
E.ainc	0.667	0.000
L.lfhe	0.286	0.000
R ²	0.746	

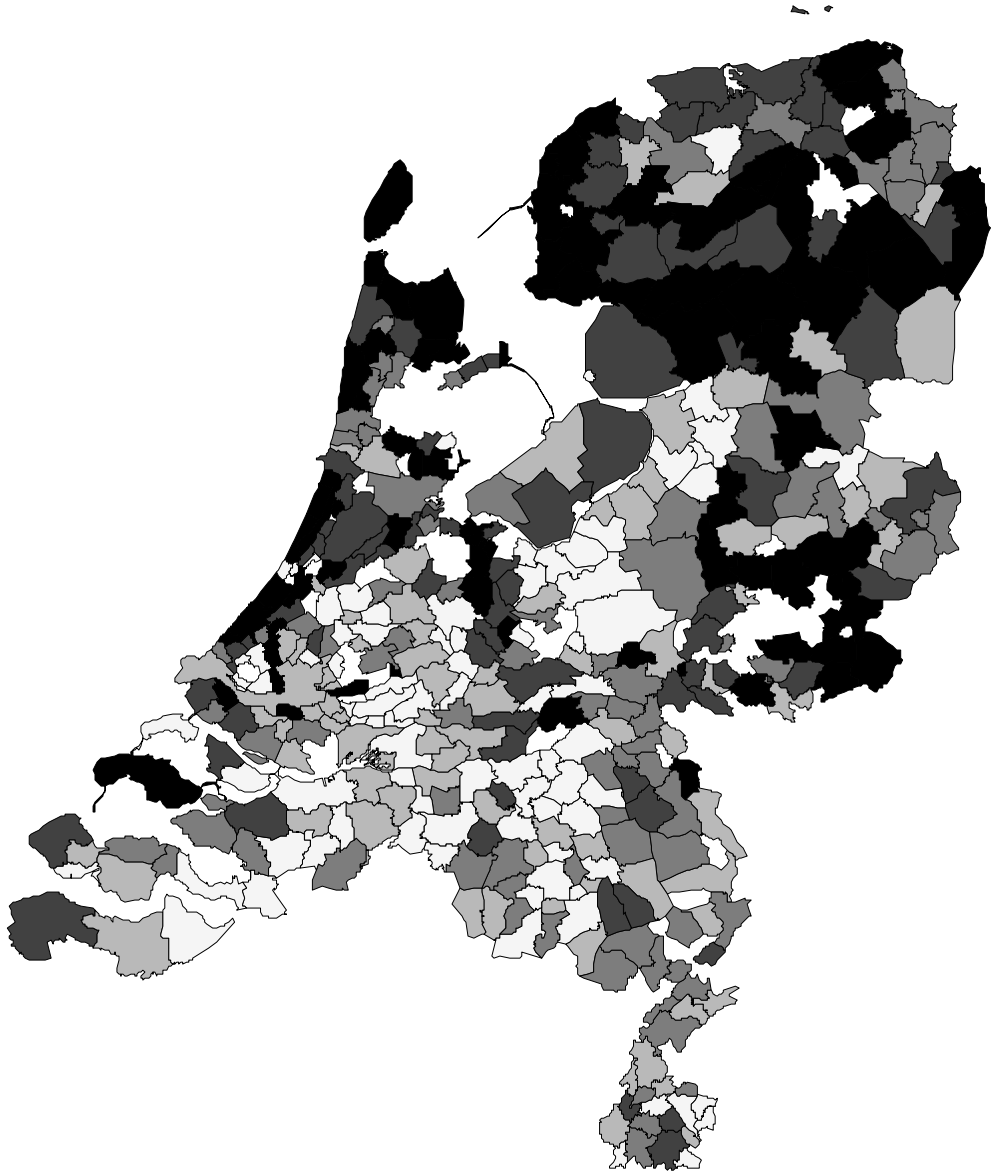
SC = standardised coefficient; sig. = significance.

map 6.8: *factor 3: individualism (IND; Netherlands, 1997-2003)*



487 municipalities (2 missing) divided in quintiles; light-grey areas score lowest; black areas score highest. White areas: missing data. See text on measurement procedure.

map 6.9: *residual of factor 3 (IND-R; Netherlands, 1997-2003)*



410 municipalities (79 missing) divided in quintiles; light-grey areas score lowest; black areas score highest. White areas: missing data. Residual after regression of IND on E.aic and L.lfhe. See text on measurement procedure.

factor 4

The fourth factor explains only 6.8% of variance, but shows very strong regional effects (see map 6.10). The highest scoring indicator variables include the number of public (rather than religiously oriented) schools, votes for the social democratic party and the number of non-married couples with children. Factor 4 is the most difficult to interpret but seems to be associated with some kind of egalitarian (low PD) anti-conservatism (low CN) and is, therefore, abbreviated EAC. It seems to be a weaker version of factor 1 (post-materialism) and is correlated highest to that factor indeed (see table 6.12). While factor 1 was strongly correlated to the degree of urbanisation, factor 4 however is not (in fact the correlation is as low as 0.034). (Neither was there an effect of income or education.)

table 6.18: factor 4: loadings (>0.5) and indicators

indicator	loading	I-C	PD	M-F	UA	CN	PM	DS
S.ppub	0.904	+	-					
P.scdm	0.738	+ / -	--	--	+ / -	-		
P.cons	-0.704		-	+ / --	-----	--	+	
H.nmkd	0.682				-	--	+	
S.pcat	-0.619	+	-	+	-	-	+	
B.outm	0.599	+				-		

See tables 6.3 and 6.5 for abbreviations.

factor 5

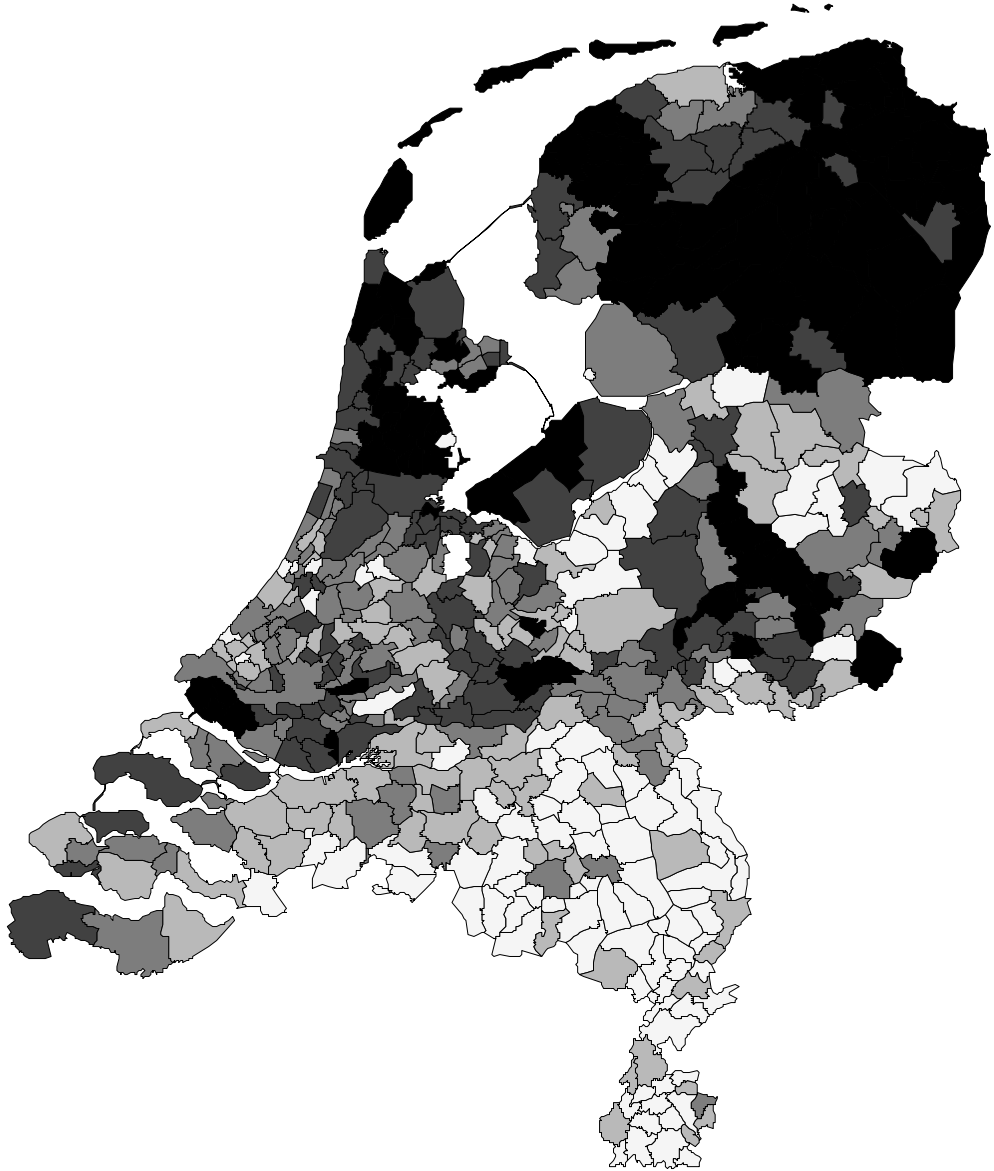
The last factor (factor 5) – explaining 6.2% – also shows strong regional effects (see map 6.11) and seems to be related to dissatisfaction (abbreviated DST), both social (votes for political reform movement and low turnout) and individual (number of divorces). (Contrary to expectation, dissatisfaction is not related to the degree of urbanisation or income.)

table 6.19: factor 5: loadings (>0.5) and indicators

indicator	loading	I-C	PD	M-F	UA	CN	PM	DS
P.prd1	0.896	+		++	+++ / -	++		++
P.prd2	0.694	+			++ / -			+
M.divr	0.609	+			+ / -	-		+
P.turn	-0.603				+			+

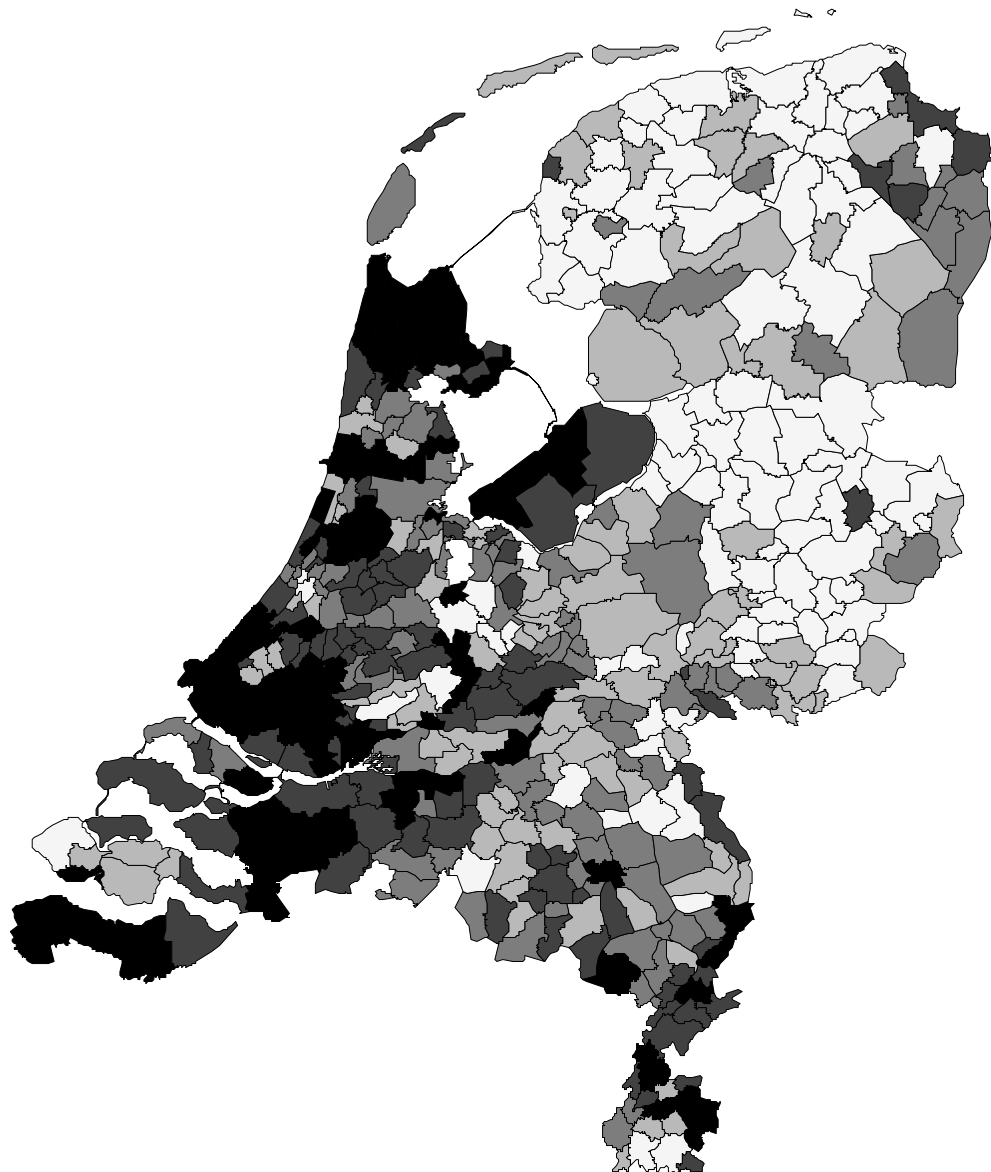
See tables 6.3 and 6.5 for abbreviations.

map 6.10: *factor 4: egalitarian anti-conservatism (EAC; Netherlands, 1997-2003)*



487 municipalities (2 missing) divided in quintiles; light-grey areas score lowest; black areas score highest. White areas: missing data. See text on measurement procedure.

map 6.11: *factor 5: dissatisfaction (DST; Netherlands, 1997-2003)*



487 municipalities (2 missing) divided in quintiles; light-grey areas score lowest; black areas score highest. White areas: missing data. See text on measurement procedure.

6 / 2 / 3 / comparing meta-behavioural measures

The five dimensions derived in the preceding subsection can be compared theoretically to Hofstede's dimensions. Furthermore, by aggregating municipalities, Corop-scores can be calculated (as weighted averages in which municipal population sizes function as weights), which can be compared to those found in an earlier study (Brons 2002; 2004). Table 6.20 presents both comparisons.

table 6.20: *a comparison of measurements and dimensions*

	Hofstede (1980; 1991)				Brons (2002; 2004)			
	IDV	PDI	MAS	UAI	COLR	MASR	ANCO	INEQ
PMA	++	-	--	-	0.308	-0.401	0.589	0.000
PRC	+/-		++	++	-0.954	0.007	0.106	0.118
IND	++				0.096	-0.364	0.509	0.563
EAC	+	--	+/--	--	-0.326	-0.409	0.265	-0.690
DST	+			++/-	0.180	0.129	0.417	0.253


PMA = post-materialism; PRC = Protestant conservatism; IND = (classical) individualism; EAC = egalitarian anti-conservatism; DST = dissatisfaction. See § 6.2.1 and the beginning of this subsection for other abbreviations.

++ = strongly positively related; + = weakly positively related; etc.

The right-hand part of table 6.20 is the most interesting and shows some important results. If the factor interpretations of both this and the earlier study were correct, IND and COLR should correlate strongly and negatively. Instead, COLR correlates strongly (and negatively) to PRC. This suggests that the interpretation of this factor as collectivism was wrong. It should have been interpreted purely religiously. (The importance of religion in COLR, however, was not unnoticed but only underestimated in Brons (2002; 2004). The 'R' in 'COLR' refers to the importance of religion in this dimension.)

Most interesting about the dimensions of regional culture derived here is that they group aspects or sub-dimensions very differently than suggested in the theoretical literature (*e.g.* Inkeles & Levinson 1954) or earlier empirical research (*e.g.* Hofstede 1980). All five dimensions, for example, seem to be related to some kind of individualism, which suggests that there is no such *single* dimension indeed (see § 6.2.1). PMA could be interpreted as a co-operative, social kind of individualism; PRC as protestant individualism; IND as an egotistic and materialist kind of individualism; and DST and EAC also seem to represent certain subtypes of individualism. Furthermore, there are no clear single equivalents of power distance, masculinity and uncertainty avoidance. The latter two seem to be split up over three dimensions; the first is important in EAC, but so are most of the other dimensions. Table 6.21 summarises the dimensions found and the aspects of meta-behaviour associated with them:

table 6.21: *dimensions of regional culture: summary*

	high score	low score
PMA	focus on self-development / self-expression co-operative and egalitarian (very) small households many votes for progressive parties environmentally conscious	focus on material wellbeing competitive and authoritarian large households many votes for conservative parties
PRC	predominantly Protestant early marriage and childbearing traditional / large households and families male dominance	predominantly Catholic relatively early marriage and childbearing 
IND	individual is more important postponement of marriage and childbearing many votes for liberal parties	national or collective interests more important little early marriage and childbearing
EAC	little religious influence modern households and families many votes for social democratic parties egalitarian and co-operative	predominantly Catholic traditional / married households and families many votes for conservative parties authoritarian and competitive
DST	dissatisfied with life and society many votes for political reform movement	relatively little dissatisfaction

PMA = post-materialism; PRC = Protestant conservatism; IND = (classical) individualism; EAC = egalitarian anti-conservatism; DST = dissatisfaction.

The measures presented in subsections 6.2.1 and 6.2.2 are attempts to capture the whole of culture or meta-behaviour in a small number of dimensions. There are, however, more specific measures of certain aspects of cultural or institutional difference as well. Lynn (1991), for example, presents three dimensions of meta-behaviour that are especially related to entrepreneurship: (1) work-ethic (measured by Spence and Helmreich); (2) competitiveness (also Spence and Helmreich); and (3) achievement motivation (Ray and Lynn). Institutional differences (between countries) measured include political and civil rights (Taylor & Jodice 1983), economic openness (Dollar 1992), and economic freedom (Gwartney, Lawson & Block 1996). Most of these measures, however, have no regional equivalent because these would be either irrelevant (in the case of the institutional measures mentioned) or impossible to measure because there is insufficient data available for indirect measurement of detailed aspects of meta-behaviour (and direct measurement would be too costly).

The next section deals with measurements of the economic components of the CED. The final section (§ 6.4) compares the measures found in this chapter with the theoretical / conceptual framework introduced and developed in chapter 5.

6 / 3 / measuring the economy

Although "economy" may seem to be a relatively straightforward concept, measuring it is probably at least as problematic as measuring culture or meta-behaviour. (On the history of measurement in economics see e.g. Porter 2001.) Robert Eisner (in his presidential address to the American Economic Association), for example, argued that most of the measures of economics are so unreliable that he and other economists 'have literally not known what we are talking about' (1989, p. 2; more fully quoted above). Similarly, Griliches (1994) (also in a presidential address to the American Economic Association) expressed some concern on economic measurability:

Imagine a "degrees of measurability" scale, with wheat production at one end and lawyer services at the other. One can draw a rough dividing line on this scale between what I shall call "reasonably measurable" sectors and the rest, (...). (...) In the early post-World War II period (...) about half of the overall economy was "measurable" in this sense. By 1990, however, the fraction of the economy for which the productivity numbers are half reasonable had fallen below one-third. (p. 10)

The quantifiable aspects of economy most relevant in the CED are wealth (and growth thereof) and entrepreneurial behaviour. Wealth is one of the most important variables in the first grand theory of the CED: historical materialism, modernisation theories and related theories; entrepreneurship and economic growth are the focal points of the second grand theory: Weber's *Die Protestantische Etik und der "Geist" des Kapitalismus* (1905) and related studies on cultural values and economic growth.

Measuring wealth and entrepreneurship comes with specific problems, which will be dealt with briefly in the next two subsections. Subsection 6.3.1 focuses on measuring wealth and change thereof; subsection 6.3.2 deals with the measurement of entrepreneurship.

6 / 3 / 1 / measures of wealth and growth

The most common measure of national wealth is Gross Domestic Product (GDP). Its popularity is mainly caused by the fact that it is measured in a strictly defined way for all countries. GDP is part of a series of definitions in the System of National Accounts (SNA) (ISWGNA 1993). GDP is related to both production and consumption. It 'represents the final result of the production activity of resident producer units' (ISWGNA 1993, § 2.171) and is 'equal to the sum of final uses of goods and services' (§ 2.173). GDP is defined as 'the sum of gross value added of all resident producer units' (§ 2.172). 'Gross value added is defined as the value of output less the value of intermediate consumption' (§ 6.4.a) and is, hence, based on the concept of "value", which is itself defined as 'the price per unit of

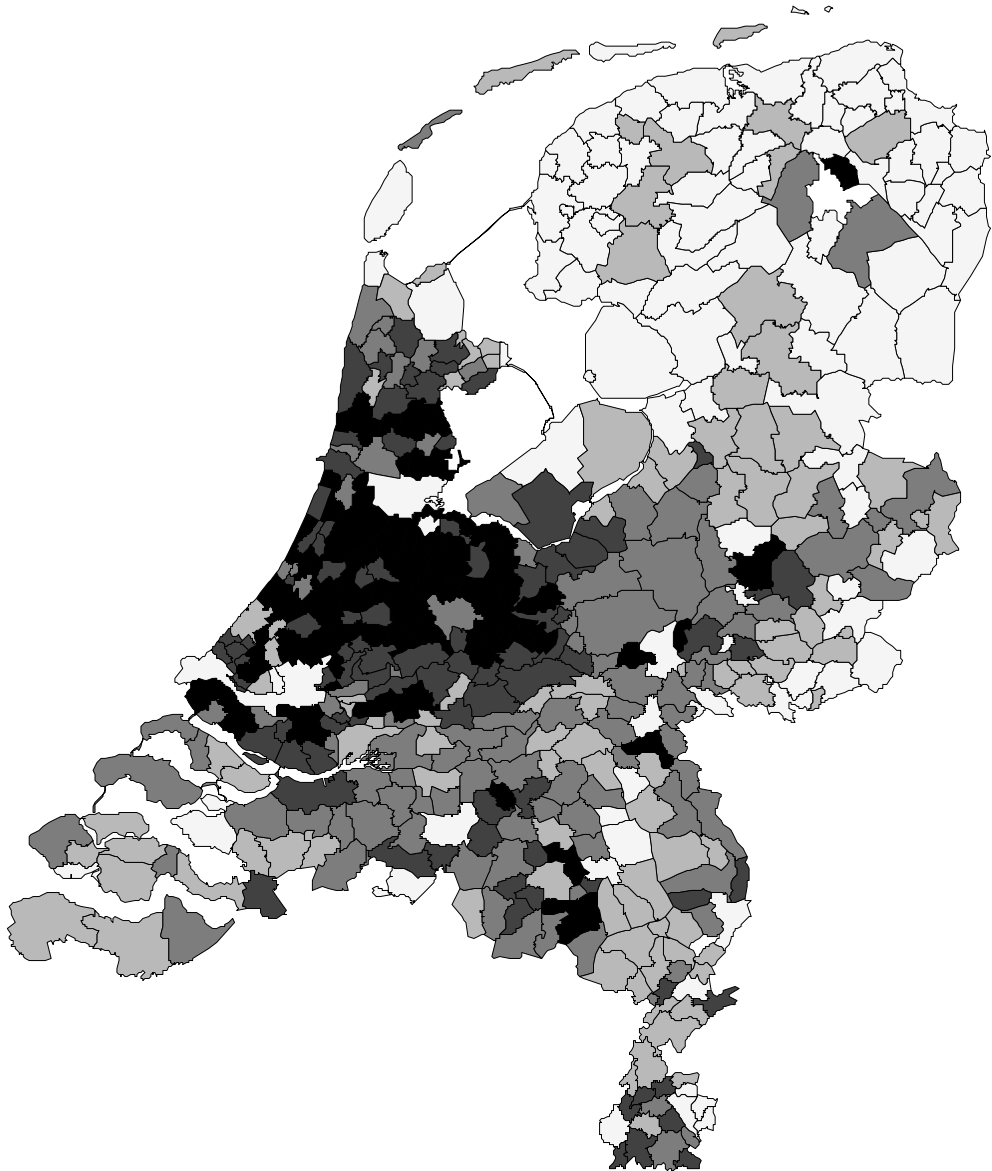
quantity multiplied by the number of quantity units' (§ 16.9). Like "price", "value" is a purely monetary concept as 'values are expressed in terms of a common unit of currency' (§ 4.6).

The definition of wealth as GDP as aggregate monetary value of production minus intermediate consumption has some interesting implications. First of all, *all* non-monetary transactions do *not* contribute to a nation's wealth. Hence, prostitution is more favourable for the national economy than marriage. Moreover, if someone marries his cleaning lady, GDP drops (*e.g.* Vaury 2003), even if he keeps on paying her for the same work because all transactions, either monetary or non-monetary, within 'institutional units' do not count in a nation's GDP. Secondly, some increases of monetary transactions do not increase national wealth. The September 11th terrorist attacks in the United States, for example, were clearly not good for national wealth. However, they may have been very advantageous for GDP as removing the rubble and rebuilding lead to increased production. Thirdly, GDP measures a nation's wealth, not that of its population. It is possible that a nation's GDP rises, while the modal income of its people drops. In most theories of the CED in which wealth is important, it is, however, the wealth of people rather than that of nations that is important.

Although GDP as a measure of wealth is far from perfect, it is in international comparison the best available, mainly because it *is* available and secondly, because many other measures are or may be measured differently or not at all in different countries. Economic growth is the most common measure of the growth of wealth and is defined as the growth of GDP.

What is available on a regional level is different for each country. In the case of the Netherlands, an abundance of data is available for different spatial scales. The best measure of wealth on the spatial scale of municipalities is average standardised household income. Average standard household income is the municipal average of the income of all resident households corrected for household size and composition (www.cbs.nl). Map 6.12 shows that the wealthiest part of the Netherlands is the centre west.

map 6.12: *standardised average household income (Netherlands, 1998-2000)*



489 municipalities divided in quintiles; light-grey areas score lowest; black areas score highest. Data source: www.cbs.nl.

6 / 3 / 2 / measures of entrepreneurship

In subsection 3.5.1, five basic aspects of the entrepreneurship were distinguished: (1) risk, (2) profit, (3) management, (4) the use or investment of capital, and (5) the creative or innovative aspect. All definitions and interpretations of entrepreneurship are combinations of some of these aspects. As there are, therefore, many definitions of entrepreneurship possible, there are equally many measures of entrepreneurship possible. There are two measures, however, that seem to cover most of the aspects and therefore, most of the concept of "entrepreneurship". The first is based on the number of persons that become entrepreneurs; the second is based on innovation (*e.g.* Gartner & Shane 1995; Wennekers & Thurik 1999).

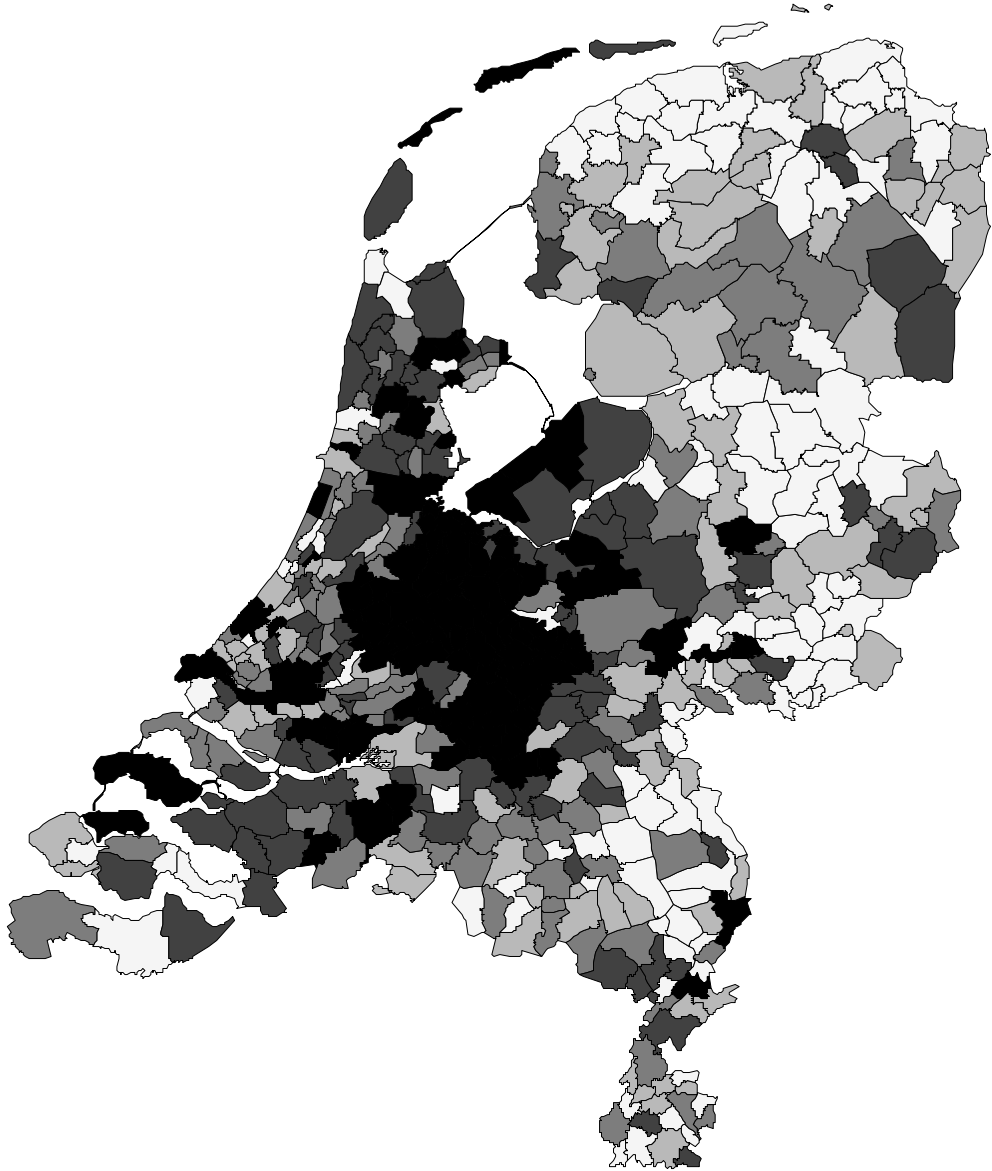
Measurement of innovation can be based either on input (*e.g.* money invested or people working in R&D) or on output (*e.g.* number of patents). International differences in innovation were measured by Shane (1992) as 'per capita number of inventions patented by nationals' (p. 36). Measurement of regional differences in innovation is more complicated. Brouwer and Budil-Nadvorníková (1994) measured innovation in two sectors of the economy for a selection of forty Dutch Corop-regions in 1988 and 1992. Their data, however, is based on a relatively small survey (as is similar data by, for example, Statistics Netherlands – CBS) and is therefore not available (or not equally reliable at least) for all regions.

Measures of entrepreneurship as innovation cannot be readily used in an analysis of the CED as the level of innovation differs immensely among industries and firm size classes. Bergeron, Lallich and le Bas (1998), for example, found that 'innovative activities are strongly concentrated in a few industrial sectors (...) and in a few areas of technological knowledge' (p.749). The detailed data on industrial structure of countries and regions needed to correct measures of innovation is generally unavailable. Therefore, measures of entrepreneurship as innovation are of limited use in this study.

The measurement of entrepreneurship as the choice to become an entrepreneur, to become self-employed, to start a firm, on the other hand, is relatively straightforward. The main problem in this kind of measurement is the difference in point of registration in different countries. Nationally different laws on the establishment and registration of new firms lead to very different measures of new entrepreneurship. The later this registration point in the founding process, the lower the resulting 'birth rate' (*e.g.* Hannan & Freeman 1989; Baldwin *et al.* 2002). Even more problematic is the measurement of self-employment in developing countries or countries with only rudimentary corporate law.

Measuring an entrepreneurial 'birth rate' on a municipal scale in the Netherlands, on the other hand, is easy. All new firms are obliged to register at the Chambers of Commerce. On the basis of this registry the Chambers of Commerce publish data on new entrepreneurs per municipality. Dividing this by the labour force in that municipality results in a decent measure of regional difference in 'entrepreneurial spirit'. Map 6.13 shows that entrepreneurship (measured in this way) is concentrated in the centre of the Netherlands.

map 6.13: *entrepreneurship (Netherlands, 2001-2002)*



489 municipalities divided in quintiles; light-grey areas score lowest; black areas score highest. Entrepreneurship measured as the number of new start-ups (by entrepreneurs) divided by the labour force. Data source: www.kvk.nl.

6 / 4 / concluding theoretical considerations

In the introduction to this chapter, it was stated that for testing it is necessary to make the common language developed in chapter 5 operational and to measure the phenomena referred to by its categories. This final section (of this chapter) is intended to review whether the measurements derived and/or proposed above satisfactorily measure the categories of this common language; whether the aspects of behaviour \mathbb{B} and meta-behaviour \mathbb{M} relevant to the CED are appropriately measured. This question consists of two parts: (1) which aspects of \mathbb{B} and \mathbb{M} are relevant to the CED? and: (2) are these appropriately measured? The first of these questions can be answered only after thorough analysis of the theories of the CED in the next chapter. Hence, a preliminary answer has to suffice here. The breadth and vagueness of many of the theories of the CED suggest that the whole of \mathbb{M} is relevant as the cultural pole. Most relevant to the economic pole, on the other hand, seem to be wealth and entrepreneurship, specifically self-employment and innovation.

Concerning the second question (above) it can be concluded that there are satisfactory measures of wealth and self-employment available on a regional scale, but not on an (inter-)national scale (see § 6.3). Measuring innovation, however, is problematic on all levels (see § 6.3.2). Measures of culture or meta-behaviour seem to be more difficult. Most parts of \mathbb{M} seem to withstand quantitative measurement, for example: how does one measure concepts \mathbb{C} , theories and ideas \mathbb{T} or institutions \mathbb{I} ? The approach to measure culture chosen here is based on measures of culture as sets of basic values \mathcal{N}_{CV} as in cross-cultural psychology and on the very definition of meta-behaviour (see § 5.2).

Meta-behaviour is the whole of the social (non-individual) influences or determinants on / of an individual's behaviour. Hence, meta-behaviour is an invisible, deeper structure beneath visible, actual behaviour. The statistical technique of Factor Analysis can be used to reveal such a deeper structure. Interpreting it, however, is rather difficult. The limited set of factors found statistically summarises the whole of meta-behaviour related to the behavioural categories covered by the original variables. However, whether the factors represent subsets of \mathbb{C} , \mathbb{T} , \mathbb{I} or \mathcal{N} , etc. is indeterminable. Each factor seems to represent some complex mix of subsets of all or most of the parts of meta-behaviour \mathbb{M} . Each factor includes theories, concepts, values, and so forth. Each factor is interpreted, however, as an element of \mathcal{N}_{CV} , as a basic value orientation. Mainly because this seems to be the most practical way to label and explain them.

Although the factors derived measure \mathbb{M} , they do not measure all of it for two reasons. Firstly, only \mathbb{M} related to the types of \mathbb{B} measured by the initial variables is measured. Whether adding more initial variables would result in much more or completely different measures of \mathbb{M} can not be determined (mainly because virtually all behavioural variables available were used). Secondly, the five factors derived, account for only 79.5% of variance

in the initial variables. Hence, approximately 20% percent of the behaviour measured by the initial variables is not explained by the factors derived. This does not necessarily mean that all of this 20% is determined by unmeasured meta-behaviour, but again, how much remains unmeasured is uncertain. Notwithstanding the problems mentioned, as a measurement of \mathbb{M} , the factors derived in section 6.2 seem to be best available.

chapter 7

ON THEORIES AND TESTS

Bedarf es tiefer Einsicht, um zu begreifen, daß mit den Lebensverhältnissen der Menschen, mit ihren gesellschaftlichen Beziehungen, mit ihrem gesellschaftlichen Dasein, auch ihre Vorstellungen, Anschauungen und Begriffe, mit einem Worte auch ihr Bewußtsein sich ändert?

Karl Marx & Friedrich Engels 1848, p. 480

The really fundamental problems of economic growth are non-economic.

Norman Buchanan & Howard Ellis 1955, p. 405

7 / 1 / introduction

A bewildering number of theories on relationships between (aspects of) culture and economy have been proposed over the last two centuries. Generally, however, these theories can be categorised in two classes or types depending mainly on the direction of the causal relationship: (1) theories on the influence of the economy on culture, and (2) theories on the influence of culture on economic growth. One of the first – and certainly the most influential – theories belonging to the first group was Marx's and Engels's *historical materialism* (see § 3.4.1). The same position is held in the second group by Weber's theory on the influence of Protestantism on the development of capitalism (see § 3.5.1). These are the two grand theories of the culture - economy dialectic (CED).

This chapter presents an analysis of these two grand theories and their offspring. To summarise, compare and test theories, they are translated into the (formal) conceptual framework developed in chapter 5 and operationalised by means of the measures proposed in chapter 6. As the theories of the CED are theories of causal relationships (see § 5.3) between aspects of social reality (see § 5.2), it is causality that is to be tested.

Not all testing is (or can be) done by means of quantitative techniques. Statistical testing offers some advantages because it deals with many cases at the same time, but many theories and sub-theories of the CED postulate relationships between phenomena that have not been measured in the preceding chapter and often even cannot be measured quantitatively. In these cases other types of analysis, such as historical analysis, are necessary. Not all of the test results presented in this chapter are new. In many cases it may

be sufficient to refer to earlier empirical and historical research. New 'evidence' is added mainly if a particular (sub-) theory is insufficiently tested (at a particular scale) and if the available data allows this.

7 / 1 / 1 / testing for causality

The preceding chapter dealt with the operationalisation and measurement of the C and E in the CED, but what should be tested is the relationship between C and E. Hence, the final step required in operationalisation is a testing procedure for the theoretical relationships between culture and economy. As these relationships are of a causal nature (see § 5.3), what is needed is a test for causality. That may be difficult, however. This difficulty is caused by the fact that causality is not an empirical category. This was explained most influentially by Hume (1748):

Suppose a person, though endowed with the strongest faculties of reason and reflection, to be brought on a sudden into this world; he would, indeed, immediately observe a continual succession of objects, and one event following another; but he would not be able to discover anything farther. He would not, at first, by any reasoning, be able to reach the idea of cause and effect; since the particular powers, by which all natural operations are performed, never appear to the senses; nor is it reasonable to conclude, merely because one event, in one instance, precedes another, that therefore the one is the cause, the other the effect. Their conjunction may be arbitrary and casual. There may be no reason to infer the existence of one from the appearance of the other. (§ V.1.3)

At some point, this person will categorise the observed succession in terms of causes and effects. There is, however, no empirical justification for this categorisation. 'There is some other principle which determines him to form such a conclusion. This principle is Custom or Habit' (§ V.1.4-5). Causality, therefore, is a theoretical relationship based on custom or habit, on repeated succession and: 'All inferences from experience, therefore, are effects of custom, not of reasoning' (§ V.1.5).

As causality is a theoretical relationship, empirically testing it is impossible. What can be tested, however, is the validity of the observation of custom or habit on which the assumed causality is based. What can be tested, in other words, is a *symptom*, a cause and consequence of causality: if there is a causal relationship, there must be some empirically measurable relationship between the assumed causes and effects. For example, if x and y are defined as possibly causally related events or phenomena and a, b, and c as points in time such that:

D7.1 $\forall a,b,c [\text{pris}(a,b) \wedge \text{pris}(b,c) \wedge a \neq c] ,$

in which the two-place predicate *pris* means 'precedes or coincides with', then it is assumed that:

$$\mathbf{T7.1} \quad \forall x,y [x \Rightarrow y \rightarrow \rho(x_a,y_c) > \rho(x_b,y_b)] ,$$

in which $\rho(x,y)$ is the Pearson correlation of variables x and y and which may be read as: 'if x causes y , then older measures of x are correlated more strongly to newer measures of y than measures of x and y from the same point in time are correlated'. The connector in the formula, however, is a conditional, not a biconditional, which implies that it cannot be reversed without alterations.'



However, T7.1 is

logically equivalent to:

$$\mathbf{T7.1b} \quad \forall x,y [\neg(\rho(x_a,y_c) > \rho(x_b,y_b)) \rightarrow \neg(x \Rightarrow y)] ,$$

which means that if $\rho(x_a,y_c) > \rho(x_b,y_b)$ is not empirically true, $x \Rightarrow y$ cannot be true. Hence, by empirical means $x \Rightarrow y$ cannot be verified, but *can* be falsified. Of course, this conclusion hinges on the assumption presented in T7.1. However, to complicate things even further, T7.1 is not necessarily true, which is illustrated in figure 7.1.

figure 7.1: correlation of causally related x and y at varying points of measurement (t) of x

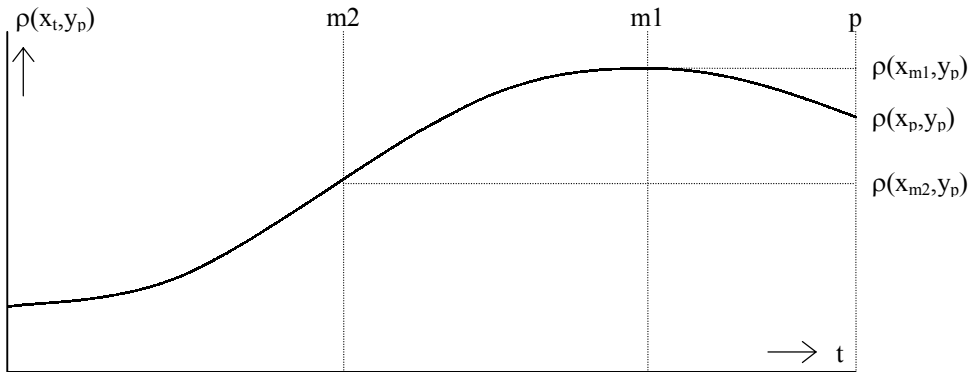


Figure 7.1 graphs the correlation ($\rho(x_t,y_p)$) of two causally related events or phenomena, such that $x \Rightarrow y$. If $a = m1$ and $b = c = p$, then $\rho(x_a,y_c) > \rho(x_b,y_b)$ and, therefore, T7.1 is true. However, if $a = m2$ and $b = c = p$, then $\rho(x_a,y_c) < \rho(x_b,y_b)$ and, therefore, T7.1 is false.

Hence, by implication, $x \Rightarrow y$ can only be falsified by empirical disconfirmation of $\rho(x_a, y_c) > \rho(x_b, y_b)$ if tested for *all* possible triplets $\langle a, b, c \rangle$, which is clearly impossible.

The ideal case for testing for causality would require long data series on the basis of which *causal graphs* similar to figure 7.1 can be drawn. However, in many cases, there are only one or two measurements. As was shown above, in the case of two measurements causality cannot be falsified, unless the definition of the causal relationship under scrutiny includes a time lag that corresponds to the two points of measurement. For example, if figure 7.1 represents actual empirical data selected to test a theory that predicts that $x \Rightarrow y$ by a time lag of $p - m2$, then $\rho(x_a, y_c) < \rho(x_b, y_b)$, and therefore, that specific theory $x \Rightarrow y$ is falsified.

If there only is a single point of measurement testing is even more problematic. The basic idea is that if x and y are causally related (whatever the direction of this relationship), then there should be two points of measurement a and b such that x and y correlate significantly:

$$\mathbf{T7.2} \quad \forall x, y [(x \Rightarrow y \vee y \Rightarrow x) \rightarrow \exists a, b, [\text{sigcor}(x_a, y_b)]]$$

in which the predicate *sigcor* means 'correlates significantly'. As was the case in T7.1, verification of $(x \Rightarrow y \vee y \Rightarrow x)$ on the basis of T7.2 is impossible. Moreover, falsification is also impossible because falsification would require proving $\neg \exists a, b, [\text{sigcor}(x_a, y_b)]$, which would require testing for *all* possible $\langle a, b \rangle$. However, in testing for causality between social phenomena, if a and b are relatively close together (or close to the beginning and end of the assumed time lag) and there is no correlation between x_a and y_b whatsoever, causality is rather unlikely because social phenomena (x and y) tend to change relatively slowly. Unfortunately, 'unlikeliness' is the best one can do in this kind of testing.

While testing for causality is problematic at least, testing hypotheses on the strength of causal relationships is even more troublesome. In section 5.3 different strengths of the causal relationships in the CED were distinguished, but not defined. As was claimed in that section, the difference between strong and weak causation (\Rightarrow^s vs. \Rightarrow^w) is rather subjective. Nevertheless, one might claim that if $\text{sigcor}(x, y)$, x and y may be strongly causally related if ρ is very high and weakly if ρ is relatively low. The boundary between "high" and "low", again, is very subjective (although $\sqrt{0.5} \approx 0.7$ seems to be an obvious candidate).

This section can be summarised very briefly as 'testing for causality is impossible'. However, several ways to show the (im-) probability of supposed causal relationships have been suggested. First of all, if very little data is available, the lack of a significant correlation makes a direct causal relationship between social phenomena unlikely. If time series data is available for at least one of the variables, $\rho(x_a, y_c) > \rho(x_b, y_b)$ can be tested for a range of (but *not* all) $\langle a, b, c \rangle$ and a graph similar to figure 7.1 can be drawn. Again this does not prove anything, but a *causal graph* shaped like that in figure 7.1 at least does *not*

refute causality. Rather to the contrary, it supports (but does *not* prove) causality with a time lag of $p-m_1$.

The methods used for testing the relationships between cultural and economic phenomena in this chapter are correlation and multiple regression. The latter is both mathematically and practically very similar to correlation, but is more useful if more than one influence or relationship is to be tested at the same time or if the independent variable (the assumed cause) in the tested relationship has to be controlled for another variable. For example, testing for the influence of cultural values on consumptive behaviour would be meaningless, even absurd, if (consumer) income is not taken into account.

Of course, more sophisticated statistical techniques are available (such as Structural Equation Modelling / LISREL), but these do not change the basic fact that only (im-)probability of causal relationships can be shown, while these sophisticated techniques are less transparent and often allude social scientists into thinking they are actually proving or disproving causality.

7 / 1 / 2 / this chapter

This chapter presents an overview of the most important theories of the CED and their empirical (dis-) confirmations. The first part, consisting of sections 7.2 to 7.5 deals with the many theories of the CED and the existing empirical confirmations and refutations thereof. The first grand theory, historical materialism, and its descendants, such as modernisation theories, are the focus of section 7.2. Section 7.3 describes the second grand theory, Weber's thesis on the influence of Protestantism on entrepreneurship, and related theories of cultural influences on entrepreneurship and economic growth. Section 7.4 presents a brief review of empirical tests of the two grand theories and their offspring. The distinction between the theoretical, descriptive sections (§§ 7.2-3) and the empirical section (§ 7.4) is a bit artificial, however, as several theories of the CED were presented in empirical studies or reactions thereupon. Hence, some empirical results will be mentioned in the theoretical sections (§§ 7.2-3).

An overview of a number of theories of the CED that are not (directly) related to the two grand theories, such as theories on the relationship between culture, institutions and economic growth, is provided in section 7.5, which closes of the first part of this chapter. (Some existing empirical confirmations and refutations are included in section 7.5.)

The second part of this chapter, section 7.6, presents some additional statistical tests. Testing is done partly by means of a brief review of previous empirical research (in § 7.4 and § 7.6.1) and partly by new statistical tests on the regional level (in § 7.6.2). Operationalisation and measurement of the variables used was explained in chapter 6, the testing procedure itself was dealt with briefly in the preceding section, but further details will be specified in section 7.6. Section 7.7, finally summarises the main conclusions of this chapter.

7 / 2 / the first grand theory

The first grand theory (GT1) is shorthand for historical materialism (HM) and related theories on the influence of the state or development of the economy on culture. Historical materialism was developed by Marx (and to a lesser extent Engels) in the first half of the 19th century. HM strongly influenced much of (late) 20th century theorising on the relationships between culture and economy, especially in the form of *modernisation* theories. The general form of the theories of the type GT1 could be formalised as:

$$\mathbf{T7.3} \quad \Delta\{\mathbf{B},\mathbf{M}\}_{\text{PCD}} \Rightarrow^s \Delta(\mathbf{M}-\mathbf{M}_{\text{PCD}}) ,$$

in words: the (state of the) economy (as the combination (or interaction) of behaviour and meta-behaviour related to production, consumption and distribution (PCD)) $\{\mathbf{B},\mathbf{M}\}_{\text{PCD}}$ (co-) determines (non-economic / non-PCD) culture or meta-behaviour $(\mathbf{M}-\mathbf{M}_{\text{PCD}})$. From T7.3 a number of 'sub-theories' can be derived. These are theories on causal relationships between parts or subsets of the variables in T7.3. For example, both $\Delta\mathbf{B}_{\text{PCD}} \Rightarrow^s \Delta(\mathbf{M}-\mathbf{M}_{\text{PCD}})$ and $\Delta\mathbf{M}_{\text{PCD}} \Rightarrow^s \Delta(\mathbf{M}-\mathbf{M}_{\text{PCD}})$ are special cases of GT1, such that:

$$\mathbf{T7.3a} \quad ((\Delta\mathbf{B}_{\text{PCD}} \Rightarrow^s \Delta(\mathbf{M}-\mathbf{M}_{\text{PCD}})) \vee (\Delta\mathbf{M}_{\text{PCD}} \Rightarrow^s \Delta(\mathbf{M}-\mathbf{M}_{\text{PCD}}))) \rightarrow \mathbf{T7.3} ,$$

but, of course, not the other way around. Although the truth of, for example, $\Delta\mathbf{B}_{\text{PCD}} \Rightarrow^s \Delta(\mathbf{M}-\mathbf{M}_{\text{PCD}})$ would 'prove' T7.3 (insofar as this is possible; see § 7.1.1); such a 'proof' would not necessarily make T7.3 a good theory as it would be far broader than evidence suggests. Hence, the goal of this chapter is not only to empirically verify or falsify T7.3 and other theories of the CED, but also, wherever possible, to refine them.

The following subsections deal with historical materialism (§ 7.2.1) and modernisation and stage theories (§ 7.2.2). Section 7.3 focuses on the second grand theory: the influence of culture on entrepreneurship and economic growth. In (sub)sections 7.4.1 and 7.6 some of the theories presented in this section are tested.

7 / 2 / 1 / historical materialism

Historical materialism (HM) was conceived roughly between 1843, when Marx read (a.o.) Smith's *Wealth of nations* (1776) and Montesquieu's *De l'esprit des loix* (1748), and 1859, when his *Zur Kritik der Politischen Ökonomie* was first published in Berlin. Of course, Marx's ideas were not completely new and numerous predecessors and influences have been suggested by various scholars. (Note that HM is not the most common abbreviation of historical materialism. It is (or was) often abbreviated as *histomat* and dialectical materialism is (or was) often abbreviated by *diamat*. These abbreviations, however, were

introduced and used (mainly) in Stalinist Soviet orthodoxy, hence, the preference for another, less historically burdened abbreviation.)

According to Seligman (1901) HM is rooted in the works and theories of Vico and Montesquieu. Jakubowski (1936) points at the importance of Hegel and Feuerbach. All of these influences have been dealt with briefly in subsection 3.4.1. Most important were the reinterpretation of Montesquieu's interacting and *spirit*-shaping physical geography, psychological nature of the people, cultural patterns, history, religion and economic mode of being as a Hegelian dialectical *totality*, and the Feuerbachian reversal of Hegelian idealism into a materialism in which the economic, material base determines the ideal superstructure (see also § 3.2.2 and § 3.4.1).

One of the most important influences and the most important predecessor of HM at least, was Saint-Simon (e.g. Taylor 1975; Kolakowski 1976). Before Marx, Saint-Simon suggested that socialism is not just a hypothetical model of society, but the result of a historical process. A few decades before the introduction of HM, he argued that *the development of the means of production is the source of all historical changes* (e.g. Saint-Simon 1817). Interestingly, Saint-Simon argued that this process of historical development is a continuous alternation of organic and critical periods. In organic periods there is consensus on the principles of science, thought and society. Critical periods are the inevitable revolutionary transitions between organic periods. One-and-a-half century later, this part of Saint-Simon's philosophy of history was nearly literally copied by Kuhn (1962). Other, less obvious, influences on the origins of HM have been suggested. Meek (1967), for example, argued that HM was strongly influenced by the Scottish Enlightenment. Scientists and philosophers of the Scottish Enlightenment (which include, for example, Hume, Ferguson, Hutcheson and Smith) generally adhered to a four-stage model of socio-economic development of nations (savage, pastoral, agricultural, commercial). According to Meek, this four-stage model was the foundation on which Marx built HM. However, as mentioned before, Marx read Smith's *Wealth of nations* (1776) in 1843, but besides that, he did not read much of the works of the Scottish Enlightenment. Moreover, the lack of terminological and/or theoretical similarities between HM and the four-stage model seriously undermines Meek's theory on the influence of the latter on the development of HM (Levine 1987).

According to Levine (1987), HM is rooted in the German historical school of law, legal sociology and especially the works of the German historian Bartold Niebuhr (which were all closely linked to Romanticism). From the latter Marx took his historicist interpretation of property, the theory that the form of ownership (co-)determines the structure of society.

Marx's and Engels's first statements on HM date back to *Die Deutsche Ideologie* of 1846, which was, however, only published in 1932. The first published statements on HM can be found in *Das Elend der Philosophie* (Marx 1847) and the *Manifest der Kommunistischen Partei* (Marx & Engels 1848; see quotes in § 3.4.1):

Mit der Erwerbung neuer Produktivkräfte verändern die Menschen ihre Produktionsweise, und mit der Veränderung der Produktionsweise, der Art, ihren Lebensunterhalt zu gewinnen, verändern sie alle ihre gesellschaftlichen Verhältnisse. Die Handmühle ergibt eine Gesellschaft mit Feudalherren, die Dampfmühle eine Gesellschaft mit industriellen Kapitalisten. (Marx 1847, p. 130)

The *locus classicus* for HM, however, was published a decade later in the preface to *Zur Kritik der Politischen Ökonomie* (1859):

Die Produktionsweise des materiellen Lebens bedingt den sozialen, politischen und geistigen Lebensprozeß überhaupt. Es ist nicht das Bewußtsein der Menschen, das ihr Sein, sondern umgekehrt ihr gesellschaftliches Sein, das ihr Bewußtsein bestimmt. (pp. 8-9; more fully quoted in § 3.4.1)

After Marx's and Engels's deaths, HM was codified by Plekhanov (1908) and Stalin (1939) (and to a lesser extent also by Lenin), as a simple mechanism of the economic determination of society. The Marxist orthodoxy that grew from their work was opposed (mainly) by Marxists from Western countries including Lukacs (*e.g.* 1923), Gramsci (*e.g.* 1929-35) and Bloch (*e.g.* 1954-9; 1961). (One of the rare critical contributions from within the Soviet bloc by the East German chemist and philosopher Havemann (1964) was – of course – published in West Germany only.)

These 'Western Marxists' emphasised the dialectical nature of HM. It is not just the economic base that determines the superstructure; the superstructure itself can have a leading role in social development:

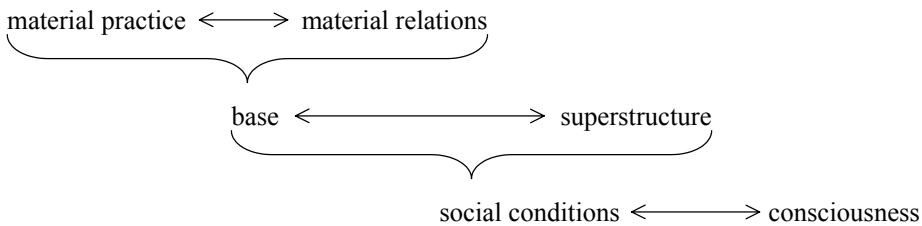
A prendre donc les choses en gros, c'est bien l'industrie humaine qui constitue la principale force motrice de l'histoire. Mais, en faisant cette constatation, les marxistes ne prétendent pas que ce soit la seule force. Ils ne disent nullement que les facteurs intellectuels et moraux ne jouent aucun rôle dans l'évolution des sociétés. (Vandervelde 1904, p. 168)

The strong emphasis on the dialectical aspect of HM is not typical just for Western Marxism, but for Far Eastern Marxism as well. Traditionally dialectical Chinese thought (see § 2.5.2) strongly influenced Mao's interpretation of HM:

in the contradiction between the economic base and the superstructure, the economic base is the principal aspect; and there is no change in their respective positions. This is the mechanical materialist conception, not the dialectical materialist conception. True, the productive forces, practice and economic base generally play the principal and decisive role; whoever denies that is not a materialist. But it must also be admitted that in certain conditions, such aspects as the relation of production, theory and the superstructure in turn manifest themselves in the principal and decisive role. (Mao 1937, pp. 335-336)

HM was a far more complex theory than the orthodox codification suggests. However, the fact that Marx never wrote a systematic treatise on his philosophy and that this, therefore, must be reconstructed from scattered statements and remarks throughout his books, notes and letters, enabled nearly every interpreter of HM, including Plekhanov and Stalin, to find the quotes and fragments he needed to support his version. Many versions and interpretations of HM exist and have existed, even in the works of Marx and Engels themselves. One could (even) claim that there is no single (consistent) theory of HM. Nevertheless, Burbelka (1982) presented an attempt to combine and reinterpret theories, fragments, aspects and versions of HM in a single framework. This framework is presented graphically in figure 7.2:

figure 7.2: *Burbelka's system of HM theories*



(figure adapted from Burbelka 1982, p. 227)

Burbelka suggested interpreting HM as a hierarchical system of three different, nested dialectics. The interaction of material practice and material relations is the *base* that itself interacts with *superstructure*. All of this in its turn is the system of *social conditions* which interacts with *consciousness*. Burbelka's system can be translated in the conceptual framework developed in chapter 5, as a theory of HM that contains the different smaller, more detailed theories, ideas and aspects.

The concept of "material" in the Marxian conceptual framework refers to the economic, to production, consumption and distribution (PCD; a division that was first proposed by Say (1829)), but to production especially. "Practice" can refer to either actual behavioural events \mathbb{B} or to patterns of behaviour \mathbb{P} . Both Burbelka (1982) and Marx's own writings suggest the latter interpretation: it is the economic way of life rather than actual economic behaviour that is concerned here. As "material relations" are the rules and institutions of PCD: \mathcal{U}_{PCD} , material practice is $\mathbb{P}_{\text{PCD}} - \mathcal{U}_{\text{PCD}} = \mathcal{H}_{\text{PCD}}$. "Base" is, according to Burbelka, both the interaction of material practice and relations: $\Delta \mathcal{H}_{\text{PCD}} \Leftrightarrow \Delta \mathcal{U}_{\text{PCD}}$, and the combination thereof $\mathcal{H}_{\text{PCD}} \cup \mathcal{U}_{\text{PCD}} = \mathbb{P}_{\text{PCD}}$. However, the fuzziness of the boundary between \mathcal{H}_{PCD} and \mathcal{U}_{PCD} and the fact that the interaction or reciprocity between the two is of only very minor importance in HM, it seems to be more appropriate to define base as just \mathbb{P}_{PCD} .

In the preface to *Zur Kritik der Politischen Ökonomie* (1859), Marx writes about the 'legal and political superstructure'. Hence, "superstructure" is the set of legal and political rules

and institutions: $\mathcal{U}_{\text{leg.pol}}$. This superstructure is (co-)determined by the (economic) base: $\Delta\mathbb{P}_{\text{PCD}} \Rightarrow^s \Delta\mathcal{U}_{\text{leg.pol}}$ and this interaction, in turn determines *consciousness*, which may very well be the most complicated concept in the system. Marx and Engels wrote most extensively on the concept of "consciousness" in *Die Deutsche Ideologie* (1846/1932). The concept seems to refer to the more spiritual parts of social reality: to social traffic rules, to theories and ideas, and to language:

die Sprache *ist* das praktische, auch für andre Menschen existierende, also auch für mich selbst erst existierende wirkliche Bewußtsein, und die Sprache entsteht, wie das Bewußtsein, erst aus dem Bedürfnis der Notdurft des Verkehrs mit andern Menschen. (p. 30)

"Consciousness" then is culture, is meta-behaviour \mathbb{M} , but as subsets of \mathbb{M} were already conceptualised differently, as "material relations" and "superstructure", "consciousness" is more or less a remainder category: $\mathbb{M} - (\mathbb{P}_{\text{PCD}} \cup \mathcal{U}_{\text{leg.pol}})$. Combining all of the above in a single formula results in:

$$\mathbf{T7.4^*} \quad [\Delta\mathbb{P}_{\text{PCD}} \Rightarrow^s \Delta\mathcal{U}_{\text{leg.pol}}] \Rightarrow^s \Delta(\mathbb{M} - (\mathbb{P}_{\text{PCD}} \cup \mathcal{U}_{\text{leg.pol}})) .$$

However, in volume three of *das Kapital*, Marx (1894, p. 800) writes that, under the influence of natural circumstances, race (or culture; see § 3.3.2) and other 'external' influences, there can be infinitely many variations of the base. This can be interpreted in two ways: (1) culture (race) and nature influence the base; or (2) culture (race) and nature are part of the base. The first interpretation corresponds with the dialectical character of HM, that was lost in the mechanical codification by Plekhanov and Stalin. However, Engels's claim that 'die Rasse is selbst ein ökonomische Faktor' (1894, p. 206) strongly points at the second interpretation. Base then should be redefined as the combination of all meta-behaviour related to PCD and the set of all actual entities (including natural objects and events and actual behaviour), similarly related to PCD: $\{\Phi, \mathbb{M}\}_{\text{PCD}}$, which would replace T7.4* by:

$$\mathbf{T7.5^*} \quad [\Delta\{\Phi, \mathbb{M}\}_{\text{PCD}} \Rightarrow^s \Delta\mathcal{U}_{\text{leg.pol}}] \Rightarrow^s \Delta(\mathbb{M} - (\mathbb{M}_{\text{PCD}} \cup \mathcal{U}_{\text{leg.pol}})) .$$

This still is not the final translation of HM as two more amendments are necessary. In *die Deutsche Ideologie* Marx and Engels (1846/1932) wrote that it is not just the legal and political rules and institutions that are determined by the economic base, but that ideology as a whole is materially (economically) determined. The concept of "ideology" to Marx and Engels referred to the whole of (philosophical and scientific) ideas, theories, categories and beliefs on politics and society. Superstructure can, hence, be interpreted as institutionalised ideology $(\mathbb{C} \cup \mathbb{T} \cup \mathcal{U})_{\text{leg.pol}}$ or even as the whole of legal and political meta-behaviour $\mathbb{M}_{\text{leg.pol}}$.

Secondly, the dialectical character of the causal relationships in HM implies that for each \Rightarrow^s there is a weak causal relationship in the opposite direction. The two directions of causality coincide with Mao's (1937) distinction between principal and non-principal contradictions. These two final amendments result in the replacement of T7.5* with:

$$\mathbf{T7.6} \quad [\Delta\{\Phi, \mathbf{M}\}_{\text{PCD}} \stackrel{w}{\Leftrightarrow^s} \Delta\mathbf{M}_{\text{leg.pol}}] \stackrel{w}{\Leftrightarrow^s} \Delta(\mathbf{M} - (\mathbf{M}_{\text{PCD}} \cup \mathbf{M}_{\text{leg.pol}})) .$$

Many theories can be derived as subtypes of T7.6. Only relatively few of these can be found in the works of Marx and Engels themselves and should, therefore, be considered to be part of the core of Marxian HM. The most important theory of HM was that on the determination of legal and political superstructure and ideology by the means of production: 'Die Handmühle ergibt eine Gesellschaft mit Feudalherren, die Dampfmühle eine Gesellschaft mit industriellen Kapitalisten' (Marx 1847, p. 130):

$$\mathbf{T7.7} \quad \Delta\mathbf{M}_{\text{prod}} \Rightarrow^s \Delta\mathbf{M}_{\text{leg.pol}} ,$$

which was further illustrated by Engels in his *der Ursprung der Familie, des Privateigentums und des Staats* (1884; see also § 3.4.2 and § 7.4.1).

The quote at the beginning of this chapter and the phrase that 'ihr gesellschaftliches Sein, das ihr Bewußtsein bestimmt' (Marx 1859, p. 9) are best formalised as T7.6, but are often interpreted as:

$$\mathbf{T7.8} \quad \Delta\{\mathbf{B}, \mathbf{M}\}_{\text{PCD}} \Rightarrow^s \Delta(\mathbf{M} - (\mathbf{M}_{\text{PCD}} \cup \mathbf{M}_{\text{leg.pol}})) , \text{ or even as:}$$

$$\mathbf{T7.8a} \quad \Delta\mathbf{B}_{\text{PCD}} \Rightarrow^s \Delta(\mathbf{M} - (\mathbf{M}_{\text{PCD}} \cup \mathbf{M}_{\text{leg.pol}})),$$

which both can be derived from T7.6, but both exclude the intermediate $\mathbf{M}_{\text{leg.pol}}$. However, Marx' and Engels' writings on the subject suggest the influence of $\mathbf{M}_{\text{leg.pol}}$ on $\mathbf{M} - (\mathbf{M}_{\text{PCD}} \cup \mathbf{M}_{\text{leg.pol}})$ is not nearly as important as that of $\{\mathbf{B}, \mathbf{M}\}_{\text{PCD}}$ and hence, that T7.8 is, next to T7.7 the most important sub-theory of HM.

The dialectical nature of HM is expressed in the bi-directionality of the causal process. This implies that next to T7.7 and T7.8 there is a weaker T7.9 in the opposite direction:

$$\mathbf{T7.9} \quad \Delta(\mathbf{M} - (\mathbf{M}_{\text{PCD}} \cup \mathbf{M}_{\text{leg.pol}})) \Rightarrow^w \Delta\{\mathbf{B}, \mathbf{M}\}_{\text{PCD}} ,$$

which can be derived from T7.6 and is a formal translation of Marx's and Engels's scattered remarks on the influence of culture on the economy (see § 3.4.1).

7 / 2 / 2 / stages and modernisation

HM is historically related to stage theories and modernisation theories. Some stage theories pre-date HM and like HM, suggest that the history of man is a series of socio-economic stages. Modernisation theories, on the other hand, are mostly (but not exclusively) interpretations and reinterpretations of T7.8. Whether a stage theory is relevant as a theory of the CED is dependent on the nature of the stages and on the causes of stage transfer: the question about what drives the historical process. In this section, some of the most important stage theories in which the stages are (at least partly) cultural and the system's engine is (at least partly) economic are dealt with briefly. In addition, some modernisation theories and other theories (in some way) similar to GT1 are described. Theories are dealt with in chronological order (mainly).

One of the first influential stage theories that could be interpreted as related to the CED is Vico's (1725/44; see § 3.2.2). Vico stated that: 'the order of ideas must follow the order of institutions' (§ 238). Different stages in the history of man are characterised by different orders of ideas (values, ideas, theories, etc). The process of development through these stages is driven by changes in the order of institutions. The latter is the way a society deals with nature and natural resources and with their technological possibilities as a means of subsistence: \mathbb{P}_{SNT} . (Note that both \mathbb{P}_{PCD} , as one of many possible definitions of "economy", and the traditional interpretation of culture as tilling or the transformation of nature $\mathbb{P}_{\text{trans.nat}}$ (see § 5.2.4) are subsets of \mathbb{P}_{SNT} .) According to Vico, the order of institutions determines the state of the economy, although he did not and could not use this term (see § 3.4.3), which in its turn determines the order of ideas, the values, ideas, theories, etc. $\mathbb{T} \cup \mathcal{N}$ of a society:

T7.10 $\Delta \mathbb{P}_{\text{SNT}} \Rightarrow^s \Delta(\mathbb{T} \cup \mathcal{N})$, or alternatively:

T7.10a $\Delta \mathbb{P}_{\text{SNT}} \Rightarrow^s \Delta \mathbb{B}_{\text{PCD}} \Rightarrow^s \Delta(\mathbb{T} \cup \mathcal{N})$.

Similar ideas have been expressed by numerous scientists in different ages. For example, in the 18th century (but after Vico) by Smith (1765) and relatively recently by Harris (1979), an anthropologist strongly influenced by Marx. In his *the theory of moral sentiments*, Smith (1765) wrote that:

Every age and country look upon that degree of each quality, which is commonly to be met with in those who are esteemed among themselves, as the golden mean of that particular talent or virtue. And as this varies, according as their different circumstances render different qualities more or less habitual to them, their sentiments concerning the exact propriety of character and behaviour vary accordingly. (Smith 1765, p.204)

Smith's basic idea is very similar to Vico's, but he focuses on values rather than on theories and ideas. (The difference was probably the result of a difference in focus as Smith was a moral philosopher and Vico a philosopher of history and culture.) Hence:

$$\mathbf{T7.11} \quad \Delta \mathbb{P}_{\text{SNT}} \Rightarrow^s \Delta \mathcal{N} .$$

Vico and Smith can be considered to be part of the prehistory of GT1. To some extent (however small) influenced by their works, Marx (and Engels) developed historical materialism in the middle of the 19th century. Only at the end of the century were new theories forwarded. Many of these, however, were influenced, or at least inspired, by Marxian historical materialism. Durkheim (1893), for example, argued that the division of labour (under certain circumstances Φ) can result in *anomie*, a nihilist decline of social values and norms in favour of egotism and individualism:

$$\mathbf{T7.12} \quad \Delta \{\Phi, \mathbb{P}_{\text{div.lab}}\} \Rightarrow^s \Delta \mathcal{N}_{\text{anomie}} .$$

A few years later Simmel (1900) claimed that a money-based economy results in a (stronger) division between business and social life, which results in more personal freedom and weaker ties between the individual and the group. Hence, the institution of money promotes individualism, but a egotistic, heartless kind of individualism: 'die ganze Herzlosigkeit des Geldes spiegelt sich so in der sozialen Kultur, die von ihm bestimmt wird' (Simmel 1900, p. 468). (Simmel was hardly the first to point at the social influences of money. Nearly three centuries earlier, Shakespeare (1623), for example, described money as both god and whore.)

$$\mathbf{T7.13} \quad \Delta \mathcal{I}_{\text{money}} \Rightarrow^s \Delta \mathcal{N}_{\text{individualism}} .$$

Most of the modernisation theories were forwarded in the second half of the 20th century. One of the first, Lewis (1955), argued that economic growth is both cause and effect of individualism:

$$\mathbf{T7.14a} \quad \Delta \mathcal{V}(\mathbb{B}_{\text{PCD}}) \Leftrightarrow \Delta \mathcal{N}_{\text{individualism}} .$$

This theory, however, was part (or a special case) of a much wider theory of the CED. According to Lewis, values and norms determine institutions. Together these influence and are influenced by the state of the economy:

$$\mathbf{T7.14} \quad \Delta \mathbb{B}_{\text{PCD}} \Leftrightarrow [\Delta \mathcal{N} \Rightarrow \Delta \mathcal{I}] .$$

Similarly, but more explicit on the strength of the causality in both directions, Hirschman (1986) claimed that:

$$\mathbf{T7.15} \quad \Delta \mathbb{B}_{\text{PCD}} \stackrel{w}{\Leftrightarrow^s} \Delta \mathcal{N}$$

In *The stages of economic growth* (1960), subtitled: *a non-communist manifesto*, Rostow presented a version of the CED that, nevertheless, seems to be very similar to the Marxian version. Rostow claims that the development of societies through five socio-economic stages is dependent on technological and economical possibilities and that social structure is the product of economic structure, economic limits and the methods of production:

$$\mathbf{T7.16} \quad \Delta \{ \mathbb{B}_{\text{PCD}}, (\mathbb{P} \cup \mathbb{T})_{\text{PCD\&tech}} \} \Rightarrow^s \Delta \mathbb{M} .$$

Novack and Lekachman (1964) presented an extremely down-to-earth argument for the influence of the economy on (aspects of) culture:

As the early twentieth century English economist P.H. Wicksteed put it, “A man can be neither a saint, nor a lover, nor a poet, unless he has comparatively recently something to eat.” Of nations it might be said that political enlightenment, social compassion, and cultural achievement are at least made possible by the attainment of minimal standards of diet, clothing, and shelter. Social progress is contingent upon economic development. (p. 1)

Hence:

$$\mathbf{T7.17} \quad \Delta \mathcal{V}(\mathbb{B}_{\text{PCD}}) \Rightarrow^s \Delta \mathbb{T} .$$

The effects of wealth on fertility in developing countries were studied by Simon (1974). He found that increased wealth leads to some increase of fertility on the short term, but to a much larger decrease on the longer term. There is a time lag between the economic and the socio-cultural change of approximately two to three decades.

$$\mathbf{T7.18} \quad \Delta \mathcal{V}(\mathbb{B}_{\text{PCD}}) \Rightarrow^s -\Delta \mathcal{H}_{\text{fertility}} .$$

Strongly influenced by Marxism, Bell (1974) argued that increasing wealth results in a decreasing work ethic. Later, Bell (1976) revived the Marxian thesis that capitalism leads to alienation (see § 3.4.1).

$$\mathbf{T7.19} \quad \Delta \mathcal{V}(\mathbb{B}_{\text{PCD}}) \Rightarrow^s -\Delta \mathcal{N}_{\text{work-ethic}} .$$

$$\mathbf{T7.20} \quad \Delta \mathcal{I}_{\text{capitalism}} \Rightarrow^s \Delta \mathcal{N}_{\text{alienation}} .$$

Probably the most important modernisation theory (and one of the most influential at least) is Inglehart's (1977; 1990; 1997), which is partly based on Harris's (1973) *anguish of change*. Harris found that people with lower income and lower education are more conservative and that groups with higher income and more education have less materialist values and are less focused on economic wellbeing. The latter groups strive for political, social and ecological change rather than for material wealth. Inglehart (1977; 1990) labelled this tendency 'post-materialism', but later (1997) he changed this into the more fashionable 'postmodernism' (see also § 6.2.1). Increasing wealth not only leads to increasing post-materialism, but also deteriorates the social base of religion (Norris & Inglehart 2004). Religion – or at least the need thereof – is related to poverty. As religion often is a prime source of conservatism, its deterioration further reinforces the rise of postmaterialism. Inglehart's explanation of the rise of post-materialism or 'postmodernisation' is remarkably similar to Novack's and Lekachman's down-to-earth argument briefly quoted above:

The values of Western publics have been shifting from an overwhelming emphasis on material well-being and physical security toward greater emphasis on the quality of life. The causes and implications of this shift are complex, but the basic principle might be stated very simply: people tend to be more concerned with immediate needs or threats than with things that seem remote or nonthreatening. (Inglehart 1990, p.5)

Postmodernization is a shift in survival strategies. It moves from maximizing economic growth to maximizing survival and well-being through lifestyle changes. Once industrialization had become possible, Modernization focused on rapid economic growth as the best way of maximizing survival and well-being. But no strategy is optimal for all times. Modernization was dramatically successful in raising life expectancies, but it has begun to produce diminishing returns in advanced industrial societies. Emphasizing competition, it reduces the risk of starvation, but increases psychological stress. With the transition from Modernization to Postmodernization, the trajectory of change has shifted from maximizing economic growth to maximizing the quality of life. (Inglehart 1997, p.66)

According to Inglehart, post-materialists are a small but growing minority in most (Western) societies, especially among the higher middle class. The growth of this minority and their influence on society is determined by the growth of material wealth with a 30-years time lag:

T7.21 $\triangle \mathcal{V}(\mathbb{B}_{\text{PCD}}) \Rightarrow^s \triangle \mathcal{N}_{\text{post-materialism}}$.

Interestingly, this theory claims that the wealthier a society is, the less it strives for wealth, and hence, a further increase thereof is appreciated. It could, therefore, be interpreted as a special case of Marshallian (1890) marginality.

Recently, Inglehart and Baker (2000) introduced two new, but related measures of cultural difference: the *traditional - rational* dimension and the *survival - self-expression* dimension (both are strongly related to post-materialism). These two dimensions, according to Inglehart, cover the whole of the variety in basic cultural value orientations. Economic development promotes rationality and self-expression; economic decline causes a stronger focus on tradition and survival:

$$\mathbf{T7.21a} \quad \Delta \mathcal{V}(\mathbb{B}_{\text{PCD}}) \Rightarrow^s \Delta \mathcal{N}_{\text{ratio/self-ex}} .$$

This, however, does not (necessarily) mean that all cultural difference between social groups is lost in the process of economic development as 'economic development tends to push societies in a common direction, but rather than converging, they seem to move on parallel trajectories shaped by their cultural heritages' (Inglehart & Baker 2000, p. 49).

The individualism - collectivism dimension is usually regarded to be one of the most basic dimensions of culture. Its importance is illustrated in chapter 6 by the five dimensions of regional culture found, which all seem to be related to some kind or aspect of individualism, and by the fact that individualism is cause and/or effect in many of the theories presented in this chapter.

A number of theorists proposed explanations for (national) differences in this dimension. Above, it was mentioned that Simmel (1900) regarded the institution of money as cause of individualism, and Lewis (1955) assumed that economic growth was (and is) responsible for the growth of individualism. More recently, Kim (1994) argued that the level of individualism in a society is dependent on the way that society deals with nature and natural resources and with their technological possibilities as a means of subsistence \mathbb{P}_{SNT} (see also Vico above). Berry (1994), on the other hand, asserted that a society's level of individualism is determined by the methods of production. Hunting and gathering and agriculture tends to result in collectivism, while industrial societies are more individualist.

$$\mathbf{T7.22} \quad \Delta \mathbb{P}_{\text{SNT}} \Rightarrow^s \Delta \mathcal{N}_{\text{individualism}} .$$

$$\mathbf{T7.23} \quad \Delta \mathbb{P}_{\text{prod}} \Rightarrow^s \Delta \mathcal{N}_{\text{individualism}} .$$

(Note that as $\mathbb{P}_{\text{prod}} \subset \mathbb{P}_{\text{SNT}}$, Berry's theory (T7.23) is more specific than Kim's (T7.22).)

Several scientists studied the influence of the economy on political and politico-economic institutions. Inglehart (1988) argued that economic growth leads to democratisation. Douthwaite (1992), on the other hand, showed that past a certain point, the interests of the economically powerful change and further economic growth leads to growing control of the state on all aspects of life. The current increase of power of secret services in Western countries, for example, cannot be explained by the September 11th terrorist attacks in New York alone; the process started years earlier.

Inglehart's and Douthwaite's theories are not necessarily contradictory but (may) apply to different periods and conditions. In earlier stages of capitalism, increasing wealth lead to a growing and increasingly powerful middle class, which in turn, demanded and supported democratisation. In later stages powerful multinationals and other large corporations increasingly prefer(red) security over democracy. This relationship between economic power and political institutions is one of the most obvious interpretations of HM (and was indeed suggested by Marx and Engels; see also preceding section).

As Inglehart and Douthwaite both assume economic change affects the political institutions, the general theory seems to be:

$$\mathbf{T7.24} \quad \Delta\{\mathbf{B},\mathbf{M}\}_{\text{PCD}} \Rightarrow \Delta\mathcal{I}_{\text{pol}} .$$

Politico-economic institutions are generally supposed to influence the economy. Economic freedom, for example, is often assumed to promote economic growth (*e.g.* Dollar 1992; Sachs & Warner 1995; de Haan & Sturm 2000; see also § 7.5.3). Rather historically specific, but nevertheless of interest in this respect, was Westermann's (1915) theory on the causes of the decline of ancient culture: 'it was the loss of economic freedom, even more than the loss of political freedom, which had such disastrous results upon private initiative and finally undermined the ancient Graeco-Roman civilization' (p. 743).

Despite the general consensus on causality running from economic freedom to economic growth, an increasing number of economists and economic historians (*e.g.* Gerschenkron 1962; Scott 1997; Chang 2002) found the opposite relationship: an increase in wealth results in an increase in economic freedom:

$$\mathbf{T7.25} \quad \Delta\mathcal{V}(\mathbf{B}_{\text{PCD}}) \Rightarrow \Delta\mathcal{I}_{\text{econ.free}} .$$

This latter theory seems to be far away from the CED in a more traditional interpretation. However, if culture is defined such that it includes institutions, it also includes the institutions related to economic freedom. Hence, due to the possible conceptual overlap of "culture" and "economy", economic institutions (such as economic freedom) could end up at both sides of the formula.

7 / 2 / 3 / summary

The number of possible causes and effects that can be labelled as "economy" and "culture" respectively is astonishing. In the theories of CED presented in this section there are thirteen different versions of economy and sixteen interpretations of culture (see table 7.1). Note that, the labels of "culture" and "economy" were not used by all of the original theorists (or even could be; see chapter 3) and not all of these theories are, strictly speaking,

special cases of T7.3 since in rare occasions the economic pole is conceptualised even more widely than in T7.3).

Although many variants of GT1 have been described briefly in this section, infinitely more exist and/or can be imagined. Not all possible variants are equally important, however. The most important, most influential theories (variants of GT1) are (1) the economic determination of political change (T7.7) and the influence of wealth on cultural values, specifically individualism (T7.14a) and post-materialism (T7.21).

While the theories above assume that the economy influences or determines aspects of culture, the next section deals with theories that suggest the opposite relationship: the influence of culture on economic behaviour and economic development.

table 7.1: concepts of "culture" and "economy" in the first grand theory

economy (cause)		culture (effect)
$\{\Phi, \mathbb{M}\}_{\text{PCD}}$	1	\mathbb{M}
$\{\mathbb{B}, \mathbb{M}\}_{\text{PCD}}$	2	$\mathbb{M} - \mathbb{P}_{\text{PCD}}$
\mathbb{B}_{PCD}	3	$\mathbb{M} - (\mathbb{M}_{\text{PCD}} \cup \mathbb{M}_{\text{leg.pol}})$
$\mathcal{V}(\mathbb{B}_{\text{PCD}})$	4	$\mathbb{M}_{\text{leg.pol}}$
\mathbb{M}_{PCD}	5	$\mathbb{T} \cup \mathcal{N}$
\mathbb{P}_{PCD}	6	\mathbb{T}
\mathbb{M}_{prod}	7	\mathcal{N}
\mathbb{P}_{prod}	8	$\mathcal{N}_{\text{individualism}}$
\mathbb{P}_{SNT}	9	$\mathcal{N}_{\text{post-materialism}}$
$(\mathbb{P} \cup \mathbb{T})_{\text{PCD\&tech}}$	10	$\mathcal{N}_{\text{ratio/self-ex}}$
$\mathbb{P}_{\text{div.lab}}$	11	$\mathcal{N}_{\text{work-ethic}}$
$\mathcal{I}_{\text{money}}$	12	$\mathcal{N}_{\text{anomie}}$
$\mathcal{I}_{\text{capitalism}}$	13	$\mathcal{N}_{\text{alienation}}$
	14	\mathcal{I}_{pol}
	15	$\mathcal{I}_{\text{econ.free}}$
	16	$\mathcal{H}_{\text{fertility}}$

7 / 3 / the second grand theory

The second grand theory (GT2) is a label for the set of theories on the influence of culture on entrepreneurship and/or economic growth. The classical theorist of GT2 is Weber (1905; 1915), but as is the case with GT1, there is a prehistory as well. In one of his many letters, Engels (1888), for example, made a rather casual remark about the importance of a 'fiebrhafte Spekulationsgeist' (p. 93) for economic development (see § 3.4.1), which suggests that the idea of a culturally different entrepreneurial spirit was already rather

common in his days. The bulk of explicit theoretical and empirical studies on GT2, however, was published in the last three decades

The general, most common, form of GT2 is:

$$\mathbf{T7.26} \quad \triangle \mathcal{N} \Rightarrow \triangle \mathbb{B}_{\text{entrepreneurship}} \Rightarrow \triangle \Delta \mathcal{V}(\mathbb{B}_{\text{PCD}}) ,$$

or, in words, a specific change in values leads to an increase in entrepreneurial behaviour, which, in turn, leads to (an increase in) economic growth.

As explained in subsections 3.5.1 and 6.3.2, "entrepreneurship" is not a singular and/or unambiguous concept. In subsection 3.5.1, five basic aspects of the entrepreneurship were distinguished: (1) risk, (2) profit, (3) management, (4) the use or investment of capital, and (5) the creative or innovative aspect. All definitions and interpretations of entrepreneurship are differently weighted combinations of some of these aspects. Generally, new firm formation or start-ups and innovation are considered to be the most important effects and indicators of entrepreneurship (*e.g.* Wennekers & Thurik 1999).

Many theories on the influence of culture on entrepreneurship are *not* particularly specific on what aspect(s) of entrepreneurship is supposed to be influenced. Moreover, different aspects and indicators of entrepreneurship are (or may be) differently influenced by culture. The hunger for profit, for example, is related to Inglehart's post-materialism (see § 6.2.1), and Douglas (1992; see also: Douglas and Wildlavsky 1982), argued that risk is a culturally determined collective construct.

The focus of this section is on the first part of the theory: the influence of culture on entrepreneurship:

$$\mathbf{T7.26a} \quad \triangle \mathcal{N} \Rightarrow \triangle \mathbb{B}_{\text{entrepreneurship}} .$$

Subsections 7.3.1 and 7.3.2 focus on the influence of religion on entrepreneurship as originally suggested by Weber (1905; 1915) and on the influence of (culturally different) values on entrepreneurship in general. Subsection 7.4.2 presents some empirical results related to these theories. The second part of T7.26:

$$\mathbf{T7.26b} \quad \triangle \mathbb{B}_{\text{entrepreneurship}} \Rightarrow \triangle \Delta \mathcal{V}(\mathbb{B}_{\text{PCD}}) ,$$

the theory that increased entrepreneurial activity results in economic growth, is dealt with and tested in subsection 7.4.3.

7 / 3 / 1 / religion and entrepreneurship

While many of the 19th century scientists and philosophers, including Marx and Durkheim (see § 7.2), focused on the negative consequences of capitalism, in the early 20th century the attention shifted towards the historical roots and conditions for capitalism. Weber and Tawney, for example, sought to explain the rise of capitalism as the result of culture.

Weber was an economist turned sociologist and was strongly influenced by the German Historical School in economics. This school focused much more on the historical specificities that influence the economic process and much less on the formal mathematical models that became fashionable in neo-classical orthodoxy.

Weber was probably not the first to write about the possible relationship between Protestantism and capitalism or wealth, as the difference in wealth and entrepreneurial spirit between the Protestant countries of northern Europe and the Catholic countries of southern Europe had already been perceived by many others. However, Weber (1905) was the first to systematically analyse this relationship. He argued that, although Protestant theologians oppose the strive for wealth, Protestant asceticism may lead to economic success as it encourages people to rationally and systematically control their (economic) environment. Protestantism promotes both the entrepreneurial spirit and the work-ethic of employees. The latter is also due to the fact that Protestant theologians regard a *Beruf* (profession) to be an assignment from God (see also § 3.5.1).

Later Weber (1915) widened his analysis to include other religions. He compared Eastern and Western religions in their capacity to promote economic growth. The values of the different religions were fitted on a dimension ranging from asceticism to mysticism. In mystic religions, redemption demands a passive and contemplative way of life. In ascetic religions, on the other hand, redemption demands an active control of life. It is this asceticism and not rationality in general that promotes economic growth. While Confucianism and Protestantism are both rational, the first is mystic while the latter is ascetic. Hence, only the latter will result in capitalism.

Die radikale Konzentration auf gottgewollte Zwecke, der rücksichtslose praktische Rationalismus der asketischen Ethik, die methodische Konzeption sachlicher Betriebsführung, der Abscheu gegen den illegalen politischen, kolonialen, auf dem Buhlen um Fürsten- und Menschengunst ruhenden, Raub- und Monopolkapitalismus, im Gegensatz dazu die nüchterne strenge Legalität und die gebändigte rationale Energie des Alltagsbetriebs, die rationalistische Schätzung des technisch besten Weges und der praktischen Solidität und Zweckmäßigkeit statt der traditionalistischen Freude an der überkommenen Fertigkeit und der Schönheit des Produkts beim alten Handwerker, – alle diese unentbehrlichen "ethischen" Qualitäten des spezifisch modernen kapitalistischen Unternehmers und: die spezifische Arbeitswilligkeit des frommen Arbeiters: – dieser rücksichtslose, religiös systematisierte, in der jeder rationalisierten Askese eigentümlichen Art "in" der Welt und doch nicht "von" der Welt lebende Utilitarismus hat jene überlegenen

rationalen Fähigkeiten und damit jenen "Geist" des Berufsmenschentums schaffen helfen, welche dem Konfuzianismus und seiner weltangepaßten, das bedeutet aber: zwar rational, aber von außen nach innen, nicht, wie beim Puritanismus, von innen nach außen determinierten Lebensführung letztlich verschlossen blieb. (Weber 1915, p. 475)

Religions are systems of rules, institutions, values, ideas, beliefs and concepts. All parts or aspects of meta-behaviour are present in religions; hence, all of these aspects can be the cultural pole of the CED. In Weber's theory, it is a mixture of rules and values \mathcal{N} (asceticism) and theories and beliefs \mathbb{T} (theological teachings) that determine entrepreneurship:

$$\mathbf{T7.27} \quad \Delta(\mathcal{N} \cup \mathbb{T})_{\text{Protestantism}} \Rightarrow \Delta \mathbb{B}_{\text{entrepreneurship}} \cdot$$

(Note that T7.27 is not strictly speaking a special case of T26a as it includes \mathbb{T} .)

Other studies on the relationship between religion and entrepreneurship usually focus more strongly on values alone. Most of these studies, however, are not explicitly about religiously determined values, but about culturally different values in general. Whether religious teachings, on the other hand, (directly) influence entrepreneurial behaviour or economic behaviour in general is difficult to say, but does not seem likely.

The most important teachings of Islam, written down in the Quran, for example, seem to be written for merchants. For many of the rules specified in (mainly) the second Sura, there are exceptions that seem to be made especially for travelling merchants (which was not an unimportant source of income in the time and place of the origins of Islam). The Torah, the most sacred text of the Jews, does not speak negatively of commercial activity (as long as it is fair); the Bible, on the other hand, does in several occasions. Hence, if teachings were the primary aspect in religious influence on entrepreneurship (or the economy in general), this would suggest that Islam and Judaism have high levels of entrepreneurship and Christianity does not. (Of course religious teachings are not limited to the 'original' sacred text, but include many more commentaries and other writings. Nevertheless, sacred texts form the core of these religions and may therefore be used in this example.) Of course, reality is different. Indeed, Jews in many countries are famous (or infamous in some times and places) for their entrepreneurial spirit (*e.g.* Sombart 1911). (The Jewish scientific and philosophical spirit should not be underestimated as well: *at least* thirty of the (more important) theorists mentioned in this book, including Spinoza, Marx, Durkheim, Simmel, Wittgenstein and Sapir, were of Jewish origin.) However, this may not be caused by their religion but by the fact that Jews since the Diaspora generally were minorities in alien societies. Hoselitz (1960; 1964; see also Singer 1977) showed that these kinds of socially marginal groups often supply (relatively) much more entrepreneurs than their host societies because self-employment is often the only means to escape low social status and poverty.

In the case of Islam, a similar phenomenon is clearly visible in many European cities. (In many south-east Asian countries, the Chinese have similar positions as Jewish and Muslim

minorities in Europe. Indeed, in many of these countries, the Chinese are extremely entrepreneurial.) However, in Islamic countries entrepreneurship does not seem to be particularly thriving. According to Kuran (1995; 1997) and Lal (1998) this is not the effect of Islamic teachings, but of social pressures preventing change in many conservative societies, and of the etatism and dirigism common to many Islamic societies respectively. Hence, rules, values and institutions prevent entrepreneurship, not religious teachings. Similarly, within Christianity different value systems differently promote entrepreneurship. According to the historian Macfarlane (1978), both Protestantism and capitalism or entrepreneurship were the effect of rising individualism in England from the 13th century onwards (see also § 3.5.1). Religious teachings did not influence the economy, but were adapted, like the economy, to more fundamental cultural change: the growth of individualism. In this way, Macfarlane affirmed Tawney (1926), one of the first theorists to explicitly point at the influence of individualism on entrepreneurship and the rise of capitalism. According to Tawney, individualism promoted the rational organisation of industry necessary for capitalism, not Protestantism:

T7.28 $\triangle \mathcal{N}_{\text{individualism}} \Rightarrow \triangle \mathcal{B}_{\text{entrepreneurship}}$,

or, more completely:

T7.28a $\triangle \mathcal{N}_{\text{individualism}} \Rightarrow \triangle \mathcal{N}_{\text{rationalism}} \Rightarrow \triangle \mathcal{B}_{\text{entrepreneurship}} \Rightarrow \triangle \mathcal{I}_{\text{capitalism}}$.

The next subsection deals with studies on the influence of individualism and other value orientations on entrepreneurship.

7 / 3 / 2 / values and entrepreneurship

Over the last two centuries, many theories on the determinants of entrepreneurial behaviour have been proposed. The two classical economists that were most interested in entrepreneurship, Say (1803) and Marshall (1890), attributed it to personal characteristics, as did the most important early 20th century theorists of entrepreneurship, Knight (1921) and Schumpeter (1926).

Schumpeter was strongly influenced by Weber. Both saw the entrepreneur as entering traditional society and setting it in motion. Both regarded innovation to be the key aspect of entrepreneurship: 'The changes in the economic process brought about by innovation, together with all their effects, and the response to them by the economic system, we shall designate by the term Economic Evolution' (Schumpeter 1939, p. 86). The most important difference between Schumpeter and Weber is that to the latter, entrepreneurship is a social or cultural phenomenon, while to Schumpeter, it is purely individual. Schumpeter's entrepreneurs are motivated by some kind of Nietzschean *will to power*, not by cultural

values or ideas (e.g. MacDonald 1965; Kilby 1971). Hence, we'll see 'dasselbe Bild in seinen Grundzügen auf die Wirtschaftssubjekte ganz verschiedener Kulturen, und wir können uns darauf verlassen, daß die Bauer sein Kalb ganz so schlau und Rücksichtslos verwertet wie der Börsenmann sein Aktienpaket' (Schumpeter 1926, p. 118).

With exceptions for Weber and Tawney, theories on the relationship between cultural values, entrepreneurship and economic growth were mostly published after the Second World War. One of the first was Lewis (1955), mentioned before in subsection 7.2.2. According to Lewis, entrepreneurship and economic growth are ultimately caused by values (especially individualism), beliefs and institutions (which themselves are the product of the state of the economy) (see T7.14 and T7.14a in § 7.2.2). One of the best known post-Weberian theories of culture and entrepreneurship is McClelland's (1961). McClelland argued that entrepreneurship is determined by individual motivation. This individual motivation, however, is a social product. The key motivation is '*n* achievement' or 'need for achievement, which involves an interest in exercising skill in medium-risk situations and a desire for concrete signs of successful performance. This need (...) develops in the period of early socialization, when the child is exposed to self-reliance training and high standards of performance' (Smelser 1963/76, p.127). Entrepreneurship is associated with innovation, individual responsibility, the faculty to assess advice, and risk taking (but calculated and moderate risk, which needs skill to assess, only). All of these are related to *n* achievement. McClelland claims that societies with higher *n* achievement produce more active entrepreneurs which produce more and/or faster economic growth:

T7.29 $\triangle \mathcal{N}_{n\text{-achievement}} \Rightarrow \triangle \mathcal{B}_{\text{entrepreneurship}} \Rightarrow \triangle \Delta \mathcal{V}(\mathcal{B}_{\text{PCD}})$.

Hagen's (1962) theory is rather similar to McClelland's (1961) in that they both see the entrepreneur as a creative problem solver interested in practical and technological problems. According to Hagen, entrepreneurs are driven by a (subjective / perceived) duty to achieve, which is very similar to McClelland's need for achievement (or *n* achievement). In the 1960s and 1970s a number of other social scientists proposed theories on the relationship between cultural values and entrepreneurship. Most of these theories, however, were not particularly specific on the exact nature of causes and effects. Cochran (1960; 1965) asserted that entrepreneurship is determined by cultural values, social expectations and sanctions, and culturally determined education. The behaviourist Kunkel (1965) suggested that entrepreneurship is the result of social stimuli. Hoselitz (1969) maintained that cultural values influence innovation. Young (1971) claimed that entrepreneurship is the product of relationships within groups (social structure). And, finally, Wilken (1979) argued that entrepreneurship is influenced by economic and non-economic factors. The first including capital, labour, resources, technology, market and growth; the latter including ideology and the social status of entrepreneurship and entrepreneurs.

The most important development in the post-Weberian history of the CED was Hofstede's (1980) measurement of international differences in cultural value orientations. Hofstede distinguished four dimensions: (1) power distance (PDI); (2) individualism (IDV); (3) masculinity (MAS); (4) uncertainty avoidance (UAI) (see also § 6.2.1). These cultural values, according to Hofstede, explain more than half of the differences in economic growth between countries (*e.g.* Franke, Hofstede & Bond 1991). Later, Hofstede (1991) added a fifth dimension: long term orientation (LTO) or Confucian dynamic. This fifth dimension quickly became one of the most popular explanations of the fast economic growth of the East Asian 'tigers' (*e.g.* Japan, Korea, Taiwan). However, after the 1997 Asian financial crises, these theories experienced quick and silent deaths (*e.g.* Jones 2003). Many later theories of culture and entrepreneurship relate the latter to Hofstede's dimensions. A number of suggestions for these kinds of relationships can be found in Hofstede's (1991) own work. Low power distance (PDI) and individualism (high IDV), for example, are associated with initiative, which is an important aspect of entrepreneurship; similarly, masculinity (high MAS) is related to competition (versus co-operation); and uncertainty avoidance is related to risk aversion.

Both innovation and new firm formation or self-employment have been related to Hofstede's dimensions. Shane (1992; 1993) and Nakata and Sivakumar (1996) are examples of the former; Wildeman *et al.* (1999) is an example of the latter. Wildeman *et al.* (1999) found that self-employment is related to (1) low wealth, (2) high power distance (PDI), (3) high uncertainty avoidance (UAI), (4) dissatisfaction with society, (5) intolerance for 'abnormal' behaviour, and (6) dissatisfaction with personal existence:

Countries in which people are less satisfied with life as a whole have more self-employed. These are societies with larger power distance, stronger uncertainty avoidance, more bureaucracy, more corruption, and which are relatively poor. People in these countries are less satisfied with the way their democracy is functioning and with their society in general. Perhaps people in such countries are more easily forced into self-employment, as they cannot optimally develop themselves within existing structures and organisations. In other countries, people possibly have more opportunities to find an appropriate job within existing structures, and, as a result, are less inclined towards starting for themselves. (Wildeman *et al.* 1999, p. 41)

Shane (1992) and Nakata and Sivakumar (1996) suggested relationships between innovation and Hofstede's dimensions. Shane assumed that high power distance (PDI) has a negative effect on innovation (measured as 'per capita number of inventions patented by nationals'; p. 36) and individualism (IDV) has a positive effect. Although Shane found that:

the values of individualism and lack of power distance appear to explain differences in national rates of inventiveness. Since rates of inventiveness were measured as much as eight years after values, the causal link appears to run from values to inventiveness, not the other direction. (Shane 1992, p. 39)

The correlations found by Shane are, as he admits himself, however, hardly significant. Later, Shane (1992) added more countries and more of Hofstede's dimensions. This study confirmed the earlier one, but also showed a significant negative correlation between innovation and uncertainty avoidance (UAI).

Contrary to Shane, the approach chosen by Nakata and Sivakumar (1996) was purely theoretical. They distinguished two stages of new product development: initiation and implementation. The success of these two stages is differently related to all of Hofstede's initial four dimensions: each dimension has a positive effect on one stage and negative on the other. More specifically: individualism (IDV) positively influences the initiation stage and negatively influences the implementation stage, while for the other three (original) dimensions (PDI, MAS, UAI) it is the other way around.

Interestingly, the theories and results proposed and found by Hofstede (1980); Wildeman *et al.* (1999), Shane (1992; 1993) and Nakata and Sivakumar (1996) all seem to point at different directions. All dimensions may be related differently to different aspects of entrepreneurship. This was confirmed, for example, by Tiessen (1997), who found that on the individual (micro) level, entrepreneurs are more individualist than others, but that, on the macro level, both individualism and collectivism may promote entrepreneurship and economic growth:

Individualism is associated primarily with variety generation, one of the two entrepreneurial functions. Collectivism contributes mostly to the other, resource leverage. These cultural orientations are important as they affect how the functions are accomplished. Individualism drives the founding of new ventures and innovation, and gives rise to contract-based leverage. Collectivism, in contrast, fosters corporate entrepreneurship and resource leverage, or "stretch", by leading to efficient internal and external relations. (Tiessen 1997, p. 368)

Consequently, summarising these Hofstede-inspired theories in a single formula more specific than the general theory proposed in T7.26(a) above does not seem to be very useful.

While Hofstede-inspired research dominated the CED for many years, a number of recent contributions focus again on the micro level and pay more attention to the characteristics and motivations of entrepreneurs (as, for example, Schumpeter and McClelland did before; see above). Thomas and Mueller (2000), for example, define the entrepreneurial profile by four separate traits: (1) an innovative attitude; (2) risk-propensity and risk-tolerance; (3)

internal locus of control (belief in the personal influence on one's own life); and (4) energy level (working long hours). Empirical findings, however, suggest that regardless of culture, entrepreneurs are innovative and that the other three *are* culture-dependent, but are not necessarily related to entrepreneurship.

Begley and Tan (2001) pointed at the importance of the culturally determined social status of entrepreneurship and the entrepreneur, as did Wilken (1979) before (see above). Verheul *et al.* (2001) claimed that 'personal attitudes towards entrepreneurship are a 'product' of the current cultural environment' (p. 68). Beugelsdijk (2003) claims that this *entrepreneurial attitude* is related to attitudes towards individual effort and individual responsibility; government responsibility and government ownership; the unemployed and the causes of (economic) success (luck and connections vs. hard work and individual effort). The measure he proposes, however, seems to be a measure of liberalism (or liberal conservatism; see also § 6.2.2) more than of entrepreneurial attitude, although the two may be related.

In subsection 7.2.2 Inglehart's (1977; 1990; 1997) theory of rising post-materialism in industrial countries was briefly described. According to Inglehart, increasing wealth results in a rise of post-materialist values and an increasing share of post-materialists among the population. However, with an increase of post-materialism there will be a decrease of entrepreneurial activity: 'nations with high proportions of Postmaterialists show relatively low economic growth rates, for Postmaterialists emphasize economic achievement less than Materialists do, and they emphasize other kinds of achievement more' (Inglehart 1990, p.176). Hence, T7.21 can be completed as:

$$\mathbf{T7.21b} \quad \Delta \mathcal{V}(\mathbb{B}_{\text{PCD}}) \Rightarrow^s \Delta \mathcal{N}_{\text{post-materialism}} \Rightarrow -\Delta \Delta \mathcal{V}(\mathbb{B}_{\text{PCD}}) ,$$

in which the first part reflects GT1 and the second part clearly is a subtype of GT2.

7 / 3 / 3 / summary

GT2 assumes that either religion or cultural values strongly influences entrepreneurial behaviour. Values influence both the levels of new firm formation or self-employment and the rate of innovation. Entrepreneurship in turn is assumed to promote economic growth. The most important theories of GT2 are (1) Weber's theory on the influence of Protestantism on entrepreneurship and (2) the many theories on cultural values as similar determinants. The latter category includes different theories on different values (as causes) and different aspects of entrepreneurship (effects), such as the influence of individualism (Tawney), achievement motivation (McClelland) or post-materialism (Inglehart) on self-employment and/or innovation. The most important innovation in the CED itself was Hofstede's measurement of differences in cultural value orientations between 53 (groups of)

countries. This resulted in a much stronger focus on empirical studies in the CED. A brief overview of these is given in the next section.

Although most of the theories presented are not very explicit on what aspect (or which aspects) of entrepreneurship is (or are) supposed to be influenced by culture, it generally is implicitly assumed that entrepreneurship is – more or less – synonymous to self-employment. In other words, with the exception of theories that explicitly focus on other aspects of entrepreneurship (such as innovation), GT2 theories assume that some aspect of culture (some set of cultural values) influences self-employment:

T7.26c $\triangle \mathcal{N} \Rightarrow \triangle \mathcal{B}_{\text{self-employment}}$.

7 / 4 / a review of empirical tests

The bulk of empirical tests of the CED is related to the second grand theory (GT2). Numerous, often contradicting, studies on the influences of cultural values on entrepreneurship have been published. A selection of these will be presented in subsection 7.4.2. Empirical studies on the first grand theory (GT1) and *minor* theories are much rarer. This may be partly caused by the fact that GT1 is associated with Marxism, which went out of fashion in the late 1970s (except in geography, where Marxists and post-Marxists still have a near-monopoly on new theoretical developments in the field), and partly by differences in 'operationalisability'. The phenomena related in many GT2 theories are less difficult to measure than many of the phenomena related in GT1 theories. It is, for example, easier to statistically test the influence of masculinity as measured by Hofstede (1980) on the level of self-employment than to test whether a change in the economic institutions of a society causes a change in its political and legal institutions. History may suggest the latter, but it is very difficult to 'prove' statistically (or otherwise).

Easily operationalised subtypes of GT1, however, are the theories on the influence of wealth on cultural values, such as T7.14a (Lewis 1955) and T7.21 (Inglehart 1977; 1990; 1997). Subsection 7.4.1 briefly deals with some empirical studies on these theories. The following subsections deal with the two parts of GT2 (T7.26a in § 7.4.2 and T7.26b in § 7.4.3).

7 / 4 / 1 / wealth and cultural change

GT1 is very difficult to test. Some parts of it may even be untestable and therefore, unscientific (e.g. Popper 1935; 1957; see also § 8.3). What can be tested, however, is whether increasing wealth results in cultural change, whether wealthier societies are, for

example, more individualist and/or more post-materialist (see § 7.2.2). Franke, Hofstede & Bond (1991) found a relationship between national wealth and individualism such that:

$$\mathbf{T7.30} \quad \Delta \mathcal{V}(\mathbb{B}_{\text{PCD}}) \Rightarrow \Delta \mathcal{N}_{\text{individualism}} ,$$

which is a unidirectional version of T7.14a and may also be related to T 7.22 and T7.23 (see § 7.2.2). Their evidence, however, is not particularly strong. Similarly, Inglehart (1990; 1997) confirmed his theory that wealth produces post-materialism (T7.21). Furnham (1990) and Lynn (1991), however, did not find empirical confirmation for Bell's (1974) theory that increasing wealth results in a decreasing work ethic (T7.19).

Based on data from the World Values Survey (WVS) (which includes 65 societies and 75% of world population), Inglehart and Baker (2000) found evidence of both cultural change and persistence. Economic development results in changing values (more rational; more focused on self-development and self-expression), confirming T7.21a. Culture, however, is path dependent. The cultural heritage leaves an imprint on values that endures throughout the process of cultural change. Similarly, Beugelsdijk (2003) found that 'economic development is an important driver of value change, but there are persistent influences of cultural heritage' (p. 135).

Yang and Lester (2000) showed that the cultural trait of *extraversion* is significantly correlated with unemployment. (Extraversion is one of two factor scores (the other was neuroticism) based on a Factor Analysis on twelve variables (eighteen industrialised countries) related to psychosis, food and drugs consumption, suicide, murder, crime, etc. (all variables are generally considered to be 'negative') by Lynn & Hampson (1977). The factor labelled "extraversion" had strongest loadings on murder; crime; cigarette consumption; illegitimacy and accidents.) Strangely, Yang and Lester concluded that extraversion partly *explains* unemployment, suggesting a direction of the causality from extraversion to unemployment, while the opposite direction seems to be much more plausible (of course neither directions are 'proven' in the study; see § 7.1.1).

Historical materialism (HM), as the source of GT1, is more difficult to test statistically. The most important theories of HM were summarised above as:

$$\mathbf{T7.7_R} \quad \Delta \mathbb{M}_{\text{prod}} \Rightarrow^s \Delta \mathbb{M}_{\text{leg.pol}} , \text{ and}$$

$$\mathbf{T7.8_R} \quad \Delta \{\mathbb{B}_{\text{PCD}}, \mathbb{M}_{\text{PCD}}\} \Rightarrow^s \Delta (\mathbb{M} - (\mathbb{M}_{\text{PCD}} \cup \mathbb{M}_{\text{leg.pol}})) .$$

Modernisation theories such as T7.30 above are a special case of T7.8. Hence, the confirmation of the former is at least a partial confirmation of the latter (see also § 7.2). There may, however, be special cases of T7.8 that are less easily tested such as the theory that the means of production \mathbb{P}_{prod} determine the way of life $\mathbb{P}_{\text{other}}$ of a people. Both \mathbb{P}_{prod} and $\mathbb{P}_{\text{other}}$ seem to be measurable only as nominal variables. Moreover, the supposed spatio-

temporal scale of the relationship hardly allows sufficient data of satisfactory quality for statistical testing.

The same is true for T7.7, which is probably the best known part of HM. The rules, institutions, values, ideas, and so on of production \mathbb{M}_{prod} and the legal and political rules, institutions, and so forth $\mathbb{M}_{\text{leg.pol}}$ can both be measured only as nominal variables. Different configurations can be classified and labelled differently, but can hardly be measured quantitatively. Moreover, limited data quality and sample sizes do not allow for statistical testing.

The only viable method for testing HM seems to be historical research. The first attempt to do just that was Engels's (1884) *Der Ursprung der Familie, des Privateigentums und des Staats*, which was basically a HM reinterpretation of Morgan (1877) (although not much reinterpretation was necessary; see § 3.4.2). In this book, Engels tried to show that all human civilisations develop through a similar set of stages and that this development is driven by changes in \mathbb{M}_{prod} . Morgan's and Engels's model of development, however, was easily falsified by later anthropologists (Diamond & Belasco 1980), but this does not necessarily falsify T7.7. What was falsified was the assumed universal succession of specific stages, as many exceptions were found. What was not falsified, however, was the mechanism behind this apparently less universal succession. The development may not be as universal as Marx and Engels thought, but the claim that it is driven by economic changes, related to production especially, seems to be well-supported by historical evidence.

7 / 4 / 2 / cultural and other influences on entrepreneurship

Although hundreds of books and articles on the relationship between culture and entrepreneurship have been published over the last decades, few of these systematically assess more than a single theory. Two exceptions are the studies by Kilby (1971) and Lynn (1991). Kilby compared and tested seven versions of GT2: Weber (1905), Schumpeter (1926), McClelland (1961), Hagen (1962), Cochran (1965), Kunkel (1965), and Young (1971) (see § 7.3), and found that 'none of the theories can be judged to achieve an acceptable level of empirical verification. On the other hand, none of the theories can be rejected as demonstrably false' (p.19). Lynn (1991) tested Weber (1905), Schumpeter (1926), McClelland (1961), and Bell (1974) and also found little evidence for these theories.

Most of the empirical tests presented below can be divided in two broad categories depending whether they focus on the micro level of entrepreneurial personality or the macro level of the cultural environment of entrepreneurship. A recent example of the former type is Lazear's (2002) theory that entrepreneurs are *jacks-of-all-trades* that do not excel in a single skill, but are competent in many. This theory, however, conflicts with Smith's (1967) notion of the *craftsman entrepreneur*. Smith distinguished craftsman

entrepreneurs (CEs) and opportunistic entrepreneurs (OEs). The two types are different in background, education and have different reasons to become an entrepreneur. While the second type could be interpreted as a *jack-of-all-trades*, the first most certainly cannot. CEs are product oriented craftsmen and engineers; OEs are market-oriented businessmen. The two types are differently (and to different extents) influenced by culture: the OE is much more sensitive to socio-cultural aspects (such as social status) of entrepreneurship than is the CE.

While Smith (1967) only distinguished two types of entrepreneurial personalities, Birley and Westhead (1994) distinguished many more. There are great differences in reasons to start a firm, to become an entrepreneur. At least twenty-three reasons are mentioned in the literature. By means of Principal Components Analysis, Birley and Westhead grouped these in seven basic motivations (see table 7.2), most of which were already distinguished in earlier studies by Dubini (1988) and Scheinberg and Macmillan (1988).

Fourhundred-and-five cases (entrepreneurs) were clustered on these basic motivations, which resulted in seven types of entrepreneurs, or seven types of entrepreneurial personality. Table 7.2 presents both the typology of motivations and the typology of entrepreneurs. There was, however, no significant relationship between these typologies and the size or growth of the new firm. Moreover, there is no clear direct link between these typologies and culture.

table 7.2: *a typology of motivations and entrepreneurs*

type of motivation:	type of entrepreneur:						
	insecure	followers	status avoiders	confused	tax avoiders	community	unclassified
need for approval	X		X	X			
need for independence		x	x		X	x	
need for personal development		X				x	
welfare considerations				X		X	
perceived instrumentality of wealth						x	
tax reduction and indirect benefits				X	X		
need to follow role models		X		X			
number	104	49	169	15	18	49	1

Smaller Xs symbolise less important relationships.

Entrepreneurial characteristics often mentioned and related to culture are risk aversion and individualism. Tiessen (1997), for example, found that entrepreneurs are more individualist than others. McGrath, MacMillan and Scheinberg (1992) compared scores of entrepreneurs

and others on Hofstede's (1980) dimensions and found that entrepreneurs are more individualist (high IDV), more masculine (high MAS), score higher on power distance (PDI) and lower on uncertainty avoidance (UAI), which is related to risk-taking. Many studies confirmed that more risk-averse people are less likely to become entrepreneurs (*e.g.* van Praag 1996; Wagner & Sternberg 2004; Sternberg & Arndt 2004).

However, more than half of new start-ups in the US are the work of more than one person (the average is 2,2) (Reynolds 1991b; 1994), which seems to contradict the supposed individualist personality. Similarly, the fact that more than two-thirds of aspiring entrepreneurs in the US have another job at the same time (Reynolds 1994) refines the image of the entrepreneur as a risk-taker. It is, however, not just the notion of the entrepreneur as a risk-taker that may be a myth, but the identification of entrepreneurship with risk itself. As Hamilton noted half a century ago: 'there is nothing with less uncertainty and risk than modern production' (1956, p. 22).

It may very well be the case that there is no such thing as an entrepreneurial personality, that entrepreneurs cannot be distinguished from the general population based on personality, as was shown by, for example, Brockhaus (1980), Sexton and Kent (1981), and Gartner (1989). Moreover, the success of the new enterprises seems to be influenced more by the entrepreneur's motivation than by personal characteristics (*e.g.* Quince & Whittaker 2003). In fact, the personal characteristics of entrepreneurs have little impact on their businesses (*e.g.* Uhlaner & Thurik 2004).

The second broad category distinguished above consists of theories on the macro level of the socio cultural environment of the entrepreneur. This is the area of direct influence of religion and cultural values on national and/or regional levels of entrepreneurship. Subsection 7.4.1 briefly dealt with the question regarding which aspect of religion is (or could be) important in the CED: teachings or values. The latter seemed to be a more suitable candidate, as the influence of religious teachings seems to have little (direct) effect on economic behaviour. Inglehart and Baker (2000), however, showed that the difference in values between members of different religions within a society is much smaller than the difference in values between countries. In other words: cultural differences between nations are stronger than those between religions and in cross-cultural research, religious differences tend to disappear behind the national differences. Therefore, if there is an effect of religion or religiously determined values, this cannot be found in (empirical) studies on the (inter-) national level, but only on the regional level.

The relationships between Hofstede's (1980) dimensions of cultural values and entrepreneurship have been tested in a number of studies. Mentioned before were McGrath, MacMillan and Scheinberg (1992; see above), Tiessen (1997), Wildeman *et al.* (1999) and Shane (1992; 1993; for the latter three, see § 7.3.2). Correlations between Hofstede's dimensions and entrepreneurship as self-employment are hardly consistent. On the individual (micro) level both McGrath, MacMillan and Scheinberg (1992) and Tiessen (1997) found a positive correlation with individualism (IDV), but on a macro level this

effect was not found. The negative correlation on the individual level with uncertainty avoidance (UAI) found by McGrath, MacMillan and Scheinberg (1992) was shown to be positive on the macro level by Wildeman *et al.* (1999) and Wennekers *et al.* (2003).

Shane (1993; see also § 7.3.2) tested the relationship between Hofstede's dimensions and innovation. He found that individualism (high IDV), low power distance (PDI) and low uncertainty avoidance (UAI) promote innovation. Strangely, in Brons (2002), using some of the same data, no significant correlations were found (not even remotely). Correlating Hofstede's dimensions to Hinloopen's (2003) measures of innovation *efficiency* suggests that individualism (high IDV) negatively influences innovation efficiency, which also contradicts Shane's results, while there is a positive effect for masculinity (high MAS). In other words (and in conclusion), there are no consistent relationships between Hofstede's dimensions and innovation.

Hofstede's dimensions have been correlated to other aspects of entrepreneurial behaviour as well. In a study on the influence of culture on entrepreneurial strategies, for example, Steensma, Marino and Weaver (2000) found that more feminine (low MAS), collectivist (low IDV) and uncertainty avoiding (high UAI) societies are more inclined to engage in co-operative strategies.

The variety of studies and results suggests that every possible value (high or low) on any of Hofstede's dimensions positively influences at least one aspect of entrepreneurship.

Of course, Hofstede's dimensions are not the only cultural variables used in empirical analyses of GT2. In Brons (2002) it was found that post-materialism is negatively related to competitiveness and Uhlaner and Thurik (2004) showed that post-materialism is negatively and strongly related, while satisfaction with life is positively related to entrepreneurship. The latter finding contradicts an earlier study by Wildeman *et al.* (1999), which showed that self-employment is driven by dissatisfaction rather than the opposite (see § 7.3.2). Dakhli and de Clercq (2004), finally, found a negative relationship between norms of civic behaviour, defined by Knack and Keefer (1997) as the tendency to co-operate and to subordinate self-interest to that of society, and one specific measure of innovation: high technology export (measured as the percentage of high technology exports in total exports).

In subsection 7.3.1 it was mentioned that immigrants tend to have higher levels of self-employment than their host populations. This was empirically confirmed by (a.o.) Hoselitz (1964), Bates (1997), Borooah and Hart (1999), and Constant, Shachmurove and Zimmerman (2003). A recent newsletter of the Dutch Chambers of Commerce (KvK 2004) mentioned that the number of firms founded by immigrants rose by 44% in the period 1999-2003, while the number of firms founded by non-immigrants rose by only 2%.

Blanchflower (2004), however, showed that not all groups of immigrants have higher self-employment than the host population and Reynolds (1994) found little difference in self-employment between different ethnic groups in the US (which also seems to contradict the influence of culture on entrepreneurship in general).

Besides cultural causes of entrepreneurship, many other determinants have been studied. Again these can be divided in micro determinants, related to the person of the entrepreneur, and macro determinants related to the society, region or country. Micro determinants of entrepreneurship that proved to be relevant in (mostly) recent empirical tests include:

- (1) education (at least secondary) (*e.g.* Reynolds 1991a; 1994; van Praag 1996; Peters, Cressy & Storey 1999; Blanchflower 2004; Wagner & Sternberg 2004; Sternberg & Arndt 2004; Uhlaner & Thurik 2004);
- (2) age (most new entrepreneurs are in their mid-thirties) (*e.g.* Reynolds 1991a; 1994; Blanchflower 2004; Wagner & Sternberg 2004; Sternberg & Arndt 2004);
- (3) sex (men are more than twice as active as entrepreneurs than women) (*e.g.* Reynolds 1991a; Wagner 2004; Blanchflower 2004; Wagner & Sternberg 2004; Sternberg & Arndt 2004);
- (4) (un-) employment and household income (*e.g.* Reynolds 1994; Verheul *et al.* 2001; Wagner & Sternberg 2004; Sternberg & Arndt 2004);
- (5) parents or other role models (*e.g.* van Praag 1996; Wagner & Sternberg 2004; Sternberg & Arndt 2004).

Although much research into the influence of the socio-economic environment of new firm formation is anecdotal and theoretically weakly founded (*e.g.* Westhead & Wright 2000), many macro determinants, mostly on the regional level, have been suggested and tested. These macro determinants of entrepreneurship include:

- (1) urban agglomeration effects (*e.g.* Keeble & Walker 1994; Reynolds, Storey & Westhead 1994; Storey 1994; Brüderl & Preisendörfer 1998; Audretsch & Fritsch 2000), especially in case of earlier population growth (Keeble & Walker 1994); agglomeration effects often mentioned to be relevant include diversity of demand (*e.g.* Verheul *et al.* 2001); availability of capital (Keeble & Walker 1994); labour market conditions (Georgellis & Wall 2000); and the presence of relevant entrepreneurial and practical experience and tacit knowledge in the direct environment (Keeble & Walker 1994; Georgellis & Wall 2000);
 - (2) industrial and size structure of the population of existing firms (*e.g.* Keeble & Walker 1994; Verheul *et al.* 2001; Georgellis & Wall 2000);
 - (3) economic and technological development of the region (*e.g.* Verheul *et al.* 2001).
- (For a more thorough review of determinants of entrepreneurship and entrepreneurial success, see *e.g.* Schutjens and Wever 2000.)

7 / 4 / 3 / entrepreneurship and economic growth

The relationship between entrepreneurship and economic growth (T7.26b) is often assumed, but rarely investigated. Schumpeter (1926) argued that entrepreneurship is the most important cause of economic growth; Porter (1990) claimed that entrepreneurship is at

the heart of national advantage; and Baumol (1993) argued that economic growth both influences and is influenced by entrepreneurship and investment in innovation.

Wennekers and Thurik (1999) proposed a framework to research the relationship. In summary, this framework claims that personal, cultural and institutional conditions influence the level of entrepreneurship, which, through intermediate linkages such as innovation and competition, influences economic growth. Their review of the literature on the relationships between culture, entrepreneurship and economic growth in terms of this framework ends with a call for research on (a.o.) the impact of entrepreneurship on economic growth. North and Thomas (1973), on the other hand, suggest that such a research question would be superfluous as innovation, economies of scale, education, capital accumulation are not causes of growth; they *are* growth. In other words, the relationship is conceptual rather than causal (see also § 2.2.2, and § 8.3)

In a very recent working paper, Karlsson, Friis and Paulsson (2004) presented an overview of theoretical ideas and empirical studies on the relationship between entrepreneurship and economic growth. Three aspects of entrepreneurship that could (or should) positively effect economic growth were distinguished: (1) competition, (2) innovation, and (3) start-ups as a source of job-creation. Of these aspects, innovation may be the most important, but due to limited data availability, the research focus seems to be on start-ups. In the subsection of their paper on the effects of competition and innovation, Karlsson, Friis and Paulsson refer to only *one* empirical study on the relationship between competition and economic growth (Gerolski 1994) and *none* regarding the economic effects of innovation. They do however include several studies on the relationship between competition and innovation, but the results of these studies are rather inconsistent. In some studies, competition negatively influences innovation (*e.g.* Gort & Sung 1999), while in others (*e.g.* Gerolski 1994) the effect is positive. Limited data availability and the difficulties of measuring innovation and competition are probably the main causes of the very small number of studies on their effects on economic growth. While the effect of new firm creation – in theory – may not be the most important, the abundance of data available resulted in a truckload of empirical studies (for the same reason the only measure of entrepreneurship used in new empirical tests in this study is based on start-ups; see §§ 6.3.2 and 7.6.2). Nevertheless, empirical 'evidence' for the relationship between entrepreneurship and economic development is rare and can often be interpreted in many ways. The economic historian Cipolla (1974/81) found that:

Entrepreneurial activity is a necessary ingredient, but not a sufficient one. It is the human vitality of a whole society which, given the opportunity, comes into play and sets loose the creative responses of history. (p. 120)

Possibly, new firms create new jobs and innovations. Although Birch's (1979) exorbitant expectations of the job creation process by small firms are heavily criticised by (a.o.) Davis, Haltiwanger and Schuh (1996), new firms actually *may* create *some* new jobs (*e.g.* van Stel

& Diephuis 2004). In spite of the fact that less than one percent of all new firms in the Netherlands show a strong growth in the number of employees (Wever & Schutjens 1995), new firms create an average 2.3 jobs on the medium-term (Wever 1984) and 1.9 jobs on the long-term (Wever & Schutjens 1995). On the other hand, in Great Britain, van Stel and Storey (2004) did *not* find a consistently significant relationship. Very recent Portuguese research by Baptista, Escária and Madruga (2005) shows that in, the long run, new firms may cause some indirect job creation, mainly by promoting competition and innovation in a region. Table 7.3 orders a number of studies on the relationship between start-ups and job creation – including those mentioned – by their results.

table 7.3: *studies on start-ups and job creation*

positive effects	indeterminate	no effects
↳ Birch (1979)	↳ Audretsch, Carree &	↳ Davis, Haltiwanger &
↳ Wever (1984)	Thurik (2001)	Schuh (1996)
↳ Davidsson, Lindmark &	↳ van Stel & Storey (2004)	↳ Haltiwanger & Krizan (1999)
Olofsson (1994)		↳ Andersson & Delmar (2000)
↳ Baldwin & Picot (1995)		↳ Bednarzik (2000)
↳ Wever & Schutjens (1995)		↳ Blanchflower (2000)
↳ Carree & Klomp (1996)		
↳ Fölster (2000)		
↳ Audretsch <i>et al.</i> (2005)		

The table shows that there is no consistent 'evidence' for the assumed positive effect of new firm creation on employment growth (or economic growth). Not very informatively, Karlsson, Friis and Paulsson (2004) conclude that 'both small and large firms might be of importance for economic growth' (p. 17). Heshmati (2001) found that the empirical effects and the difference in empirical results in studies on the relationship between growth, size and age of firms are dependent mainly on the research methods and definitions chosen. Hence, conceptual analysis may be necessary here.

Whether new firms create significantly more jobs remains open for discussion. Most other assumed effects seem, however, to be just as indeterminate. Innovation, for example, may result in job creation as well. Firms with above-average research and development (R&D) show above-average growth in the number of jobs. Moreover, the social benefits of innovation are far greater than the private benefits for the innovating firm itself (Mansfield *et al.* 1977). These effects, however, are rarely limited to the region, country or place where the innovative activity was located.

Beugelsdijk (2003) found a positive relationship between 'entrepreneurial attitude' (which seems to be a measure of liberal conservatism more than of a tendency to entrepreneurial behaviour; see § 7.3.2) and economic growth. He did, however, not test the relationship of

entrepreneurial attitude to actual entrepreneurial behaviour; neither did he test the relationship between actual entrepreneurship and economic growth.

In two very recent studies (van Stel & Thurik 2004; van Stel, Carree & Thurik 2005), it was found that entrepreneurship *may* positively influence economic growth, but only under specific economic conditions. Entrepreneurship may play a different role in different stages of economic development. A similarly recent study by Fritsch and Mueller (2004) suggests that there are considerable time lags (of approximately eight years) in the effects of entrepreneurship on the economy and that the effects may both be positive and negative. Moreover, indirect effects such as improved competition and supply conditions may be more important than direct effects such as job creation.

Harvie (2003) suggested that self-employment may contribute to economic growth (in developing countries) not only by job creation, but also by raising incomes. He distinguished two types of micro-enterprises in East Asia: (1) livelihood enterprises, which are an important source of income for poor families, but which do not directly create employment and do not grow (however, the development and growth of the sector as a whole does generate more employment and alleviates poverty); and (2) growth-oriented micro-enterprises. Enterprises of the latter category have the potential to grow into small and medium enterprises and may become sustainable generators of income and employment. This second group, however, is much smaller and therefore far less influential on the economic well-being of the population as a whole.

7 / 4 / 4 / summary and conclusions

The brief overview of empirical studies presented above shows that some theories of the CED are more plausible than others. Some theories *seem* to be empirically confirmed while others are refuted or no final judgement can be passed. However, *none* of the tests presented conforms to the criteria for testing causal direction explained in subsection 7.1.1. Hence, even if a relationship is (or seems to be) confirmed, this does not automatically confirm the assumed direction of the causality, and if no relationship was found, this does not necessarily refute a theory as there may be a time gap between cause and effect different from the time between their measurement.

Moreover, limited possibilities to make categories operational make some GT1 theories, especially historical materialism (HM) itself, very difficult to test statistically. There seems to be historical evidence for Marx's claim that economic institutions (especially those regarded to the means of production) to some extent determine political institutions (T7.7), but the nature of the data makes more rigorous statistical testing impossible. Other aspects of GT1, such as the influence of wealth on individualism (T7.14a; T7.30) and on post-materialism (T7.21), on the other hand, seem to be empirically confirmed (or very plausible at least).

Testing GT2 has proven to be at least as difficult as testing GT1; albeit for different reasons. The above has shown that there does not seem to be a specific set of values that consistently promotes entrepreneurship. In fact it seems that every possible cultural value may promote at least one specific aspect of entrepreneurship. Moreover, the assumed relationship between entrepreneurship and economic growth cannot be confirmed as well. In 7.6 some further test results are explained. These further analyses are added for two reasons: (1) to investigate whether results described in this section can be improved, clarified, completed and/or confirmed (especially concerning the direction of causal relationships); and (2) to test whether similar results can be found at a very different spatial scale: that of Dutch municipalities. Before turning to these further tests, section 7.5 deals with some *minor* theories of the CED.

7 / 5 / *minor* theories of the CED

This section describes a number of *minor* theories of the CED. Of course, the term "minor" here does not imply that these theories do not live up to the same (scientific) standards as the theories presented before. It only refers to the fact that these theories do not seem to be related (either theoretically or historically) to the two grand theories and that they had less impact on the theoretical development of the CED.

Minor theories presented here include theories on embeddedness (§ 7.5.1), culturally specific *conditions* for economic growth (§ 7.5.2), and theories on the relationship between institutions and economic growth (§ 7.5.3), between culture and consumption (§ 7.5.4), and between geography, culture and economy (§ 7.5.5).

7 / 5 / 1 / embeddedness

Theories of embeddedness are not theories of causal relationships between culture and economy, but about the overlap therebetween. The theory was introduced by Polanyi (1947; 1977), who argued that the economy and economic behaviour is embedded in a socio-cultural environment, and was elaborated most influentially by Granovetter (1985). The basic idea is that all behaviour is socio-culturally embedded, which is most lucidly explained by Zukin and DiMaggio (1990):

When we say that economic behavior is “culturally” embedded, we refer to the role of shared collective understandings in shaping economic strategies and goals. Culture sets limits to economic rationality: it proscribes or limits market exchange in sacred objects and relations (...) or between ritually classified groups. (...) culture has a dual effect on

economic institutions. On the one hand, it constitutes the structures in which economic self-interest is played out; on the other, it constrains the free play of market forces. (p.17)

The idea is related to, for example, Schlicht's (1998) theory that all economic behaviour and processes depend on and are influenced by custom (which, as defined by him, is more or less synonymous to culture) and to the general idea presented in chapter 5, that behaviour is determined in a complex interaction of culture, nature and reason.

The theory of embeddedness has been adapted and applied in many ways. Behaviour is, for example, not just culturally, but also politically and economically embedded. Moreover, it is not just behaviour that is embedded but also – in some interpretations or adaptations of the theory – the (behaving) actors themselves. While the theory of the embeddedness of behaviour assumes that behaviour is co-determined by socio-cultural context, the idea of the embeddedness of actors, of people and organisations focuses on the links that tie these actors to their environment, to their socio-cultural context.

The two interpretations of the theory, of course, are not wholly independent. Actors are embedded in a context that co-determines their actions. The socio-cultural context or environment provides the rules, values, and so forth that are (or become) familiar to the actor and that guide his behaviour. The socio-cultural context provides a home and a sense of security for the actor. Beyond the own (familiar) socio-cultural context lay disembodiedness, fear and disorientation:

Der Durchschnittsmensch hat eine fast panische Angst vor dem, welcher von ihm, von seiner gewöhnlichen Lebensart verschieden ist. Apartheid, nur unter den Seinigen dahinleben, ist eine widerliche, aber fast organische Trägheit der Seele. (Steiner 2003, p. 39)

The notion of embeddedness of actors rather than of behaviour plays an important role in firm migration or relocation research. In recent decades, the dominant paradigm in firm relocation research shifted from neo-classical to behavioural and/or institutional. In the latter approaches, firms are considered to be embedded in a (a.o.) political, economic, social and cultural context. A recent overview of the literature (Pellenbarg, van Wissen & van Dijk 2002) shows that economic (*e.g.* supplier and customer relationships) and political (*e.g.* taxes and subsidies) embeddedness have been taken well into account. The socio-cultural embeddedness of firms, however, remains mostly ignored. (Although in rare cases the social networks of firms and/or entrepreneurs play a minor role in the analysis.)

Whenever a firm leaves the socio-spatial context it is embedded in, it has to re-embed in its new context to function properly after relocation. A move from one economic region to another often makes it necessary to enter into new supplier and customer relationships, hence to re-embed in a new economic context. Similarly, migration from one cultural region to another may require cultural re-embedding. In other words, boundaries (may) negatively influence relocation. The necessity to re-embed, economically, politically or otherwise, discourages firms to emigrate from the economic, political, and so forth region it

is located in. In this way embeddedness strongly influences relocation behaviour of firms. In Brons (2005) it was tested whether similar effects exist for cultural embeddedness of firms, whether cultural boundaries have a similar negative effect on relocation as economic and political boundaries. Empirical results showed that relocating firms tend to stay within their cultural region, even when controlled for distance. Hence, cultural embeddedness and cultural boundaries do influence relocation decisions. However, if a firm emigrates to and re-embeds in a new cultural region, the extent of cultural difference between these two regions does not really matter.

7 / 5 / 2 / cultural conditions for economic growth

The group of theories presented in this subsection is closely related to GT2. The essential difference is that GT2 assumes a direct influence of culture on entrepreneurship, while the theories below suggest indirect influences only. This kind of theory points at the importance of specific culturally determined *conditions* for entrepreneurship and/or economic growth rather than pointing at direct *causes* (and are therefore not formalised as such). Rostow (1953; see also § 7.2.2), for example, argued that economic growth is determined by a number of *propensities*, culturally determined value orientations related to fundamental and applied science, innovation, materialism, consumption, and so on. 'The propensities summarize the effective response of a society to its environment, at any period of time through its existing institutions and leading social groups; and they reflect the underlying value system effective within that society' (p.12).

Probably the most popular conditions for economic development are *social capital* and *trust*. The term "social capital" was introduced by Loury (1977; 1987) to refer to 'the set of resources that inhere in family relations and in community social organization and that are useful for the cognitive or social development of a child or young person' (Coleman 1990, p. 300). The idea of social capital has been developed most notably by Coleman (e.g. 1988; 1990). In a recent study, Beugelsdijk (2003) found that social capital positively influences economic development in a number of European regions. De Clercq and Dakhli (2003) researched the influence of social and human capital on innovation and did not find a consistent relationship.

One of the most outspoken advocates of the importance of trust for economic development is Fukuyama (1995), who states that trust is necessary for economic interaction, for markets and companies to function, and for economies to grow (see also Banfield 1958; Putnam 1993). Without trust, no (capitalist) economy; with little trust, a less effective economy. Trust, more or less, is the lubricant of the economy. Several scientists point at the importance of *civic culture*, a set of value orientations related to (a.o.) life satisfaction, political satisfaction and involvement, solidarity and trust. *Civic culture* promotes the political stability and democracy necessary for economic development (e.g. Inglehart 1988; Swank 1996; Putnam 1993; see also § 7.2.2).

Recently, Kockel (2002a) described the importance of the informal or *provisory* economy in facilitating economic growth in a number of ethnological studies in rural and urban areas in Ireland (mainly). Kockel's examples range from community-co-operatives and 'cooring' to social networks and casual companies. Throughout the book it is repeatedly shown that these institutions of the informal economy either influence the formal economy directly, by creating jobs and/or wealth, or indirectly, by facilitating development in the formal economy. Even in cases where informal economy has only very limited influence on the formal economy, its social impact is considerable. Although Kockel's *Regional culture and economic development* is mostly about the influence of the informal on the formal economy, the title is not just fashionable. Informal economy, as a specific set of rules, values, and so forth could very well be interpreted as a subset of culture. Moreover, 'in its earliest forms culture is an *economy*; a practical, utilitarian thing. Only in its late developments does it become a diversion' (Giddings 1903, p. 451); culture 'was the industry of primitive man' (p. 453). In other words: informal economy *is* culture.

Keating, Loughlin and Deschouwer (2003) pointed at the importance of culture as 'a framework for collective action and a rationale for social co-operation' (p. 187); and as a potential source for a positive or negative regional self-image, which influences and is influenced by economic development, possibly resulting in a vicious cycle. Similarly, Myrdal (1957) and Rostow (1960) argued that nationalism can promote economic development.

Culturally determined conditions for entrepreneurship rather than economic growth (or behaviour) in general were suggested by (a.o.) Porter (1990), Casson (1993) and Florida (1997; 2002). Porter (1990) pointed at the indirect influence of culture on the chances for entrepreneurial success:

Social norms and values affect the nature of home demand, for example, as well as the goals of managers and the way firms are organized. (...) Cultural factors are important as they shape the environment facing firms; they work through the determinants, not in isolation from them. Such influences are important ones to competitive advantage, however, because they change slowly and are difficult for outsiders to tap or emulate. Social and political history and values create persistent differences among nations that play a role in competitive advantage in many industries. (p.129)

According to Casson (1993), culture influences both inter-firm relationships (competition versus co-operation) and intra-firm relationships (organisational behaviour). Culture is an enforcement mechanism that substitutes internal self-supervision and internal socio-emotional sanctions for external supervision and legal sanctions. As such, it eases communication and co-operation between and of people with a similar cultural background. Casson's argument comes very close to Polanyi's (1958) distinction of tacit and codified knowledge; the latter being the more formal rules, knowledge, supervision and sanctions necessary wherever and/or whenever the former is insufficient. (see also § 4.2.1)

Polanyi's idea was also elaborated by Florida (1997; see also Morgan 1997), who claimed that the economic development of regions is (co-)determined by their learning potential, by the faculty to transfer knowledge, especially tacit knowledge, within a social group and to build upon this knowledge. More recently, Florida (2002) argued that creativity and social diversity promote economic growth. Cities (and regions) that better manage to attract the 'creative class' of artists, scientists, etc. have higher innovative potential and much better chances for economic growth. In a recent empirical study (Lee, Florida & Acs 2004), it was shown that social diversity and creativity indeed positively influence new firm formation.

7 / 5 / 3 / culture, institutions and development

A subset of the set of theories on the conditions for economic development focuses especially on the role of institutions in promoting economic growth. The general theory of the relationships between cultural values, institutions and economic development is:

$$\mathbf{T7.31} \quad \Delta\mathcal{N} \Rightarrow \Delta\mathcal{I} \Rightarrow \Delta\Delta\mathcal{V}(\mathbb{B}_{\text{PCD}}) .$$

Parsons and Smelser (1956), for example, argued that institutions reflect a culture's value orientations, and according to Greif (1994), culture – through path-dependence – determines the institutional structure of a society, which influences its economic success. Baptista (2004) maintains that institutions and government attitudes towards entrepreneurship are the result of cultural values and needs. Causality does not necessarily run from left to right alone. Tabellini (2004b), for example, argued that the cultural values that influence the economy are partly shaped by historical institutions:

$$\mathbf{T7.31a} \quad \Delta\mathcal{I} \Rightarrow \Delta\mathcal{N} \Rightarrow \Delta\Delta\mathcal{V}(\mathbb{B}_{\text{PCD}}) ,$$

and Orrù (1999) claimed that 'the market, the state, and the cultural system affect and shape each other' (p. 26). Rewriting T7.31 accordingly would result in something like:

$$\mathbf{T7.31b} \quad [\Delta\mathcal{N} \Leftrightarrow \Delta\mathcal{I}] \Leftrightarrow \Delta\Delta\mathcal{V}(\mathbb{B}_{\text{PCD}}) .$$

The first part of T7.31, $\Delta\mathcal{N} \Rightarrow \Delta\mathcal{I}$, is studied within a variety of scientific fields including sociology, history and institutional economics. Hamilton may have been of the most important theorists of the relationship between culture and institutions. According to Hamilton (*e.g.* 1955), economic thought itself is strongly influenced by political and religious institutions. The theory of the factors of production (labour, capital and land), for example, was not so much a theory of actual production, but an argument to legitimise class structure (workers, capitalists and landlords) and class income (Hamilton 1955).

Many of our economic institutions are cultural products. Hamilton (1956) showed that corporations are not the economic necessities they are often assumed to be, but are the product of our beliefs and ceremonial needs. Similarly, the figure of the entrepreneur is more of a mythical character than economic reality. The entrepreneur is a 'cultural hero':

ever alert in pursuing the main chance, respond[ing] to the wants by producing goods in just the quantity and quality that consumers desire them. The Entrepreneur takes on the qualities of a cultural hero who performs the miracles of production. He is a creative genius and master of ceremonies. (...) He has a creative role denied to any of the others including labor. (Hamilton 1957, p. 250)

Probably, it is this near-religious faith in our cultural heroes – rather than economic reality itself – that leads to the sustained belief in the positive influence of entrepreneurship on economic growth (see § 7.4.3).

Contributing to the theory of cultural influence on institutions, more recently, Mayda and Rodrik (2001) argued that (a.o.) values, identities and attachments are important in explaining differences in preference for (free) trade or protectionism; Semenov showed that national preferences for systems of industrial finance (Semenov 2000) and stock market development (de Jong & Semenov 2002) are culturally determined; and Johnson and Lenartowicz (1998) found a relationship between economic freedom and culture.

Regarding the inverse relationship of $\Delta\mathcal{I} \Rightarrow \Delta\mathcal{N}$ rather than $\Delta\mathcal{N} \Rightarrow \Delta\mathcal{I}$ (the grounding of cultural values in historical institutions), Tabellini (2004b) recently found that:

Historically more backward regions (with higher illiteracy rates and worst political institutions) tend to have more negative cultural values today: less trust, less respect for others, less confidence that individual's effort will deliver good results. Moreover, the component of culture explained by the historical variables is strongly correlated with current regional per capita income, (...). (p. 3)

The second part of T7.31, $\Delta\mathcal{I} \Rightarrow \Delta\Delta\mathcal{V}(\mathcal{B}_{\text{PCD}})$, is probably the only aspect of the CED that is studied by mainstream, orthodox economists. The institutions of subsidies, taxes and market structure are generally considered to have some (mostly negative) influence on the economy, which is usually 'proven' by means of a mathematical model. Fortunately some social scientists have expanded their studies beyond the borders of the mathematical model into the real world.

Before the birth of economic orthodoxy, Smith (1765) may have been one of the first to point at the importance of institutions for the economy. He argued that institutions such as taxes and subsidies (may) limit the market's potential to produce wealth. Moreover, Smith larded his *Wealth of Nations* with historical illustrations and examples including an extensive historical analysis of political and economic institutions and their effects on the economy from the end of the Roman Empire onwards. The growth of economic freedom in

some cities was, according to Smith, an especially important cause of their economic development.

Of all possible institutional determinants of economic development, economic freedom or openness is suggested most frequently (by far) (*e.g.* Dollar 1992; Sachs & Warner 1995; de Haan & Sturm 2000). The theory on the influence of economic freedom on economic growth is, however, also the one most strongly associated to political ideology. One of the best known institutes researching economic freedom, the Fraser Institute, for example, clearly and explicitly adheres to conservative liberalism. (Of course, economic theory itself is hardly free from political ideology and/or value neutral as was shown by *e.g.* Myrdal 1929; 1973; Hamilton 1955; Rosenberg 1999; Gandal *et al.* 2004.) This ideological background explains the vigour with which the theory is defended, a defence not unnecessary by the way, since economic historians (and some economists) keep finding the opposite causal direction in the relationship: an increase in wealth results in an increase in economic freedom, not the other way around (*e.g.* Gerschenkron 1962; Scott 1997; Chang 2002; see also § 7.2.2 and T7.25), or they find no discernible link between economic freedom and economic growth at all (*e.g.* Rodríguez & Rodrik 1999; Freeman 2002).

The second most popular institutional 'guarantee' of high economic growth probably is property rights. According to Tabellini (2004a), of all the things governments (could) do, only one really makes a difference between success and failure in economic development: (the institution of) the protection of property rights (see also Acemoglu & Johnson 2003).

Other institutions that are frequently assumed to promote economic growth include:

- (1) policies and institutions that encourage (or are at least perceived to do so) production of output rather than its diversion (through *e.g.* theft, corruption) (Hall & Jones 1999);
- (2) education (*e.g.* Higgins 1977; Barro 1991; Wharton 1999), although Easterly and Rebelo (1993) found no relationship between government spending on education and economic growth;
- (3) strong labour unions (Hicks 1988);
- (4) democracy (Adelman & Morris 1973; see also Persson & Tabellini 2003); and
- (5) political stability (Alesina *et al.* 1992; Barro 1991; see also § 7.5.2), which is, however, itself the product of wealth (Inglehart 1988).

The economic effects of macroeconomic policy, on the other hand, seem to be negligible except in the case of extremely bad policies (Easterly 2003), which is a symptom of weak (or instable) political institutions (Tabellini 2004a).

Generally, institutional explanations of economic differences should be dealt with cautiously due to the fact that different institutional settings have often been found to be reasonable substitutes for each other in promoting economic growth (Engerman & Sokoloff 2003). Moreover, many measures of economic institutions (including those by Dollar 1992 and Sachs & Warner 1995) have serious shortcomings and/or biases or are downright misleading (*e.g.* Rodríguez & Rodrik 1999).

7 / 5 / 4 / the culture of consumption

GT2 refers exclusively to entrepreneurial behaviour, to production and distribution. Hence, entrepreneurial behaviour $\mathbb{B}_{\text{entrepreneurship}}$ coincides with (or at least overlaps considerably) with productive and distributive behaviour $\mathbb{B}_{\text{prod.dist}}$, which makes it a subset of economy interpreted as \mathbb{B}_{PCD} . The remaining part then, would be consumptive behaviour $\mathbb{B}_{\text{consumption}}$. GT2 is far more specific than GT1. A more general theory of the influence of culture on the economy, a reversal of GT1, would be something like:

$$\mathbf{T7.32} \quad \Delta\mathbf{M} \Rightarrow \Delta\mathbb{B}_{\text{PCD}} ,$$

which can be decomposed into two more specific theories: $\Delta\mathbf{M} \Rightarrow \Delta\mathbb{B}_{\text{prod.dist}}$ and $\Delta\mathbf{M} \Rightarrow \Delta\mathbb{B}_{\text{consumption}}$. GT2 is an even more specific variant of the former, but a similar special case of $\Delta\mathbf{M} \Rightarrow \Delta\mathbb{B}_{\text{consumption}}$ can be imagined:

$$\mathbf{T7.33} \quad \triangle\mathcal{N} \Rightarrow \triangle\mathbb{B}_{\text{consumption}} \Rightarrow \triangle\Delta\mathcal{V}(\mathbb{B}_{\text{PCD}}) .$$

Although this relationship was suggested by, for example, Porter (1990) and DiMaggio (1994), there still remains little research regarding it:

The social sciences have been slow to see this relationship, and slower still to take stock of its significance. They have generally failed to see that consumption is a thoroughly cultural phenomenon. (...) consumption is shaped, driven, and constrained at every point by cultural considerations. The system of design and production that creates consumer goods is an entirely cultural enterprise. The consumer goods on which the consumer lavishes time, attention, and income are charged with cultural meaning. Consumers use this meaning to entirely cultural purposes. They use the meaning of consumer goods to express cultural categories and principles, cultivate ideals, create and sustain life-styles, construct notions of the self, and create (and survive) social change. Consumption is thoroughly cultural in character. (McCracken, 1990, p.xi)

Veblen (1899) and Giddings (1903) were probably the first to point at the importance of culture to consumption. Veblen argued in his *The theory of the leisure class* (1899) that competition often takes the form of a competitive use of goods to affirm social status. Recently, Xu *et al.* (2004), for example, showed that consumption is not only related to *social* status, but also to *ethnic* or cultural identity, while Minkler & Cosgel (2004) pointed at the importance of consumption for religious identity.

Whereas McCracken stated that 'consumption is thoroughly cultural' (see quotation above), Giddings (1903) argued that culture and consumption are nearly synonymous:

'What men desire and expect in life is an epitome of their race history in social intercourse, manners, art, amusements and religion. (...) A phenomenon of the diversification of wants and satisfactions, the standard of living is a fact not of production primarily, but of consumption. Thus we arrive at the broad economic significance of culture. The evolution of culture is the evolution of a consumption economy.' (p. 457)

Giddings' conclusion echoes in Howes' (1966) claim that 'it is now thought that the Industrial Revolution presupposed – and may even have been preceded by – a 'Consumer Revolution'; hence, the birth of the consumer society is no longer presumed to be explicable in terms of technological innovation and changes in the forces of production alone' (p. 9). In other words and contrary to popular belief, the mass-production revolution followed the increase in consumptive demand, not the other way around.

Although the influence of culture on consumption may be of some importance, the difficulties inherent to researching the relationship (the lack of useable data mainly) may not be worth the trouble. To a large extent, consumption is determined by production (marketing included) and wealth. Moreover, even if consumption is partly influenced by culture, the economic effects seem to be of no or only minor importance, since it is generally the types of goods consumed that are culturally influenced and not the level of consumption, while it is this level of consumption that is (most) economically relevant. Hence, in the culture - economy dialectic, consumption only seems to play a rather passive supporting role: 'Le seul élément actif, le facteur révolutionnaire par excellence, c'est l'industrie humaine' (Vandervelde 1904, p. 167).

7 / 5 / 5 / geographies of economic growth

Classical and modern geography provided a number of theories on spatial and environmental effects on the CED. In classical geography (see § 3.6.1), culture and economy, the poles of the CED, are considered to be part of some wider category ("man" or "society") that is opposed to the physical environment. Culture and economy are shaped in reciprocal relationships with the physical environment and with each other:

$$\mathbf{T7.34} \quad \Delta\Phi_{\text{phys.environment}} \Leftrightarrow [\Delta\mathbf{M} \Leftrightarrow \Delta\mathbf{B}_{\text{PCD}}] .$$

In most of these theories, there is, however, no distinction of the economic and the cultural. Hence, these are not theories of the CED in the strict sense. However, physical determinist theories (which assume that the physical environment (co-)determines the social; see § 3.6.1) of cultural and economic development have been important in many theories of the CED. Although physical determinism slowly went out of fashion in geography in the early 20th century, it remained influential in many other fields. Huntington's *Civilization and climate* (1915), for example, while rejected by most geographers, kept inspiring other

scientists, including Toynbee (1934-61) and Hofstede (1991), who claimed that the cultural differences he found are partly caused by differences in climate. Other recent contributions to physical determinist theory include the many studies by Sachs and his co-authors on the effects of among others mean temperature, distance to the coast, diseases and arable land (Sachs & Warner 1997; Bloom & Sachs 1998; Gallup, Sachs & Mellinger 1999; Sachs 2000; 2001), and Diamond's *Guns, germs, and steel* (1997), which claims that Europe got rich because of the presence or absence of certain types of crops (grains especially), domesticable animals, infectious diseases and resources. (See also Acemoglu, Johnson & Robinson 2002; Easterly & Levine 2003; Olsson 2003; Hibbs & Olsson 2004; Rodrik, Subramanian & Trebbi 2004.)

In the field of human geography the attention shifted in the 1950s and 60s towards abstract space and distance rather than the real physical environment. This resulted in numerous, mostly mathematical theories on the effects of distance, agglomeration and location on the chances for entrepreneurial success and economic growth. Isard (1956) and his modern apprentice Krugman (1992), for example, pointed at the importance of agglomeration effects and the related economies of scale and information density. Even this kind of theory can be considered as part of (or related to, at least) the CED because agglomeration, for example in the form of urbanisation, is a (partly) cultural phenomenon.

7 / 5 / 6 / summary and conclusions

The *minor* theories presented above are theories of culturally influenced *conditions* or *catalysts* for economic growth and are therefore more similar to GT2 than to GT1. Five types of theories were described: (1) the theory of the *embeddedness* of the economy in (a.o.) culture; (2) general theories on the cultural conditions for economic development; theories on the influence of (3) institutions and (4) consumption on economic growth; and (5) theories on the effects of space and the physical environment in or on the CED. Culture was shown to be important in providing a shared conceptual framework, a body of (tacit) knowledge and a set of rules that may facilitate co-operation and development in regions or social groups. Institutions or institutional environments that may promote economic growth include democracy, political stability and a good educational system. Economic freedom, on the other hand, seems to be the effect of wealth rather than its cause.

The influence of consumption is more problematic partly because the lack of appropriate data. Moreover, its relevance in (or to) the CED is not completely clear as consumption may be determined more by wealth and production (including marketing) than by culture. Consumption seems to be a more or less passive element in the CED.

Classical geography studied man - environment interactions. In physical determinism, it was assumed that society, culture and economy are (at least partially) determined by the physical environment, especially by climate. Some similar theories still persist, but not within the field of geography. A more recent type of geographical theory that is, albeit not

closely, related to the CED focuses on the economic effects of agglomerations, which can be regarded to be the products of culture.

The next section continues testing of the many theories of the CED. The focus, however, shifts to a re-evaluation of earlier tests in Brons (2002) by means of the causal graphs proposed in subsection 7.1.1 (§ 7.6.1) and some new tests based on the measurements of regional cultural and economic differences in chapter 6 (§ 7.6.2). Section 7.7 finally focuses on the theories of the CED that have not been tested or are untestable and summarises the main findings of this chapter.

7 / 6 / further testing of the CED

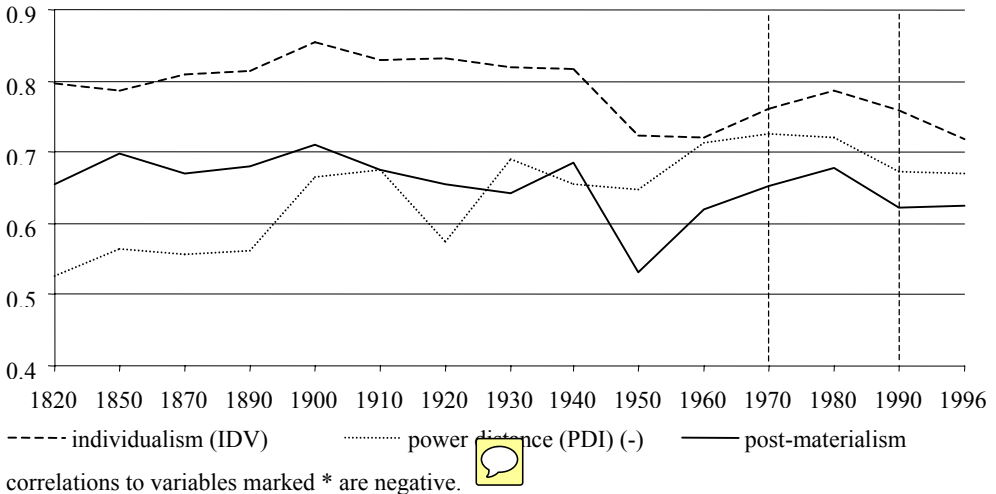
The empirical test results presented in the preceding sections (§ 7.4 mainly) seem to be rather inconclusive. For many of the theories in this chapter there is either contradictory 'evidence', or no 'evidence' at all. Possibly more and better testing can solve this. On the other hand, the problem may be more fundamental. The CED may be more conceptual than empirical, in which case statistical testing is doomed to fail. Nevertheless, this section presents some new test results, partly based on a reinterpretation of the results of an earlier study (Brons 2002), partly based on new measurements of regional culture as derived in chapter 6. Subsection 7.6.1 is a second look at the findings of Brons (2002), mainly by means of *causal graphs* that graphically represent the correlation between a time series variable and a variable measured at a single point in time. Basically, these graphs are similar to figure 7.1 (§ 7.1.1), albeit that figure 7.1 was purely theoretical and the *causal graphs* in subsection 7.6.1 are based on actual data. Subsection 7.6.2 deals with the explanation of regional differences in new firm formation as an aspect of entrepreneurship and with other relationships between regional cultural and economic variables.

7 / 6 / 1 / national culture and causal graphs

In subsection 7.1.1 it was explained that correlations between or with time series data provides the best possible defence for causal theories. The result can never be more than a mere 'defence' however, as causation is fundamentally untestable (see § 7.1.1). In Brons (2002) a number of measurements of national cultural and institutional differences were compared to time series data on national wealth measured as GDP. As the (approximately fifty) cases in this analysis were the countries for which cultural and/or institutional data was available, these hardly represent an arbitrary sample. Hence, it is not very useful to speak of *significant* and *insignificant* correlations, and the results of the analysis should be interpreted carefully.

Figures 7.3 and 7.4 graph the Pearson correlations with Maddison's (1995) GDP time series for a number of variables, that correlated particularly high (see table 7.4): Hofstede's individualism (IDV) and power distance (PDI), Inglehart's post-materialism (p-Mat), economic freedom, civil rights and competitiveness. (Dashed vertical lines in the graphs represent years of measurement for non-time-series (cultural) data.)

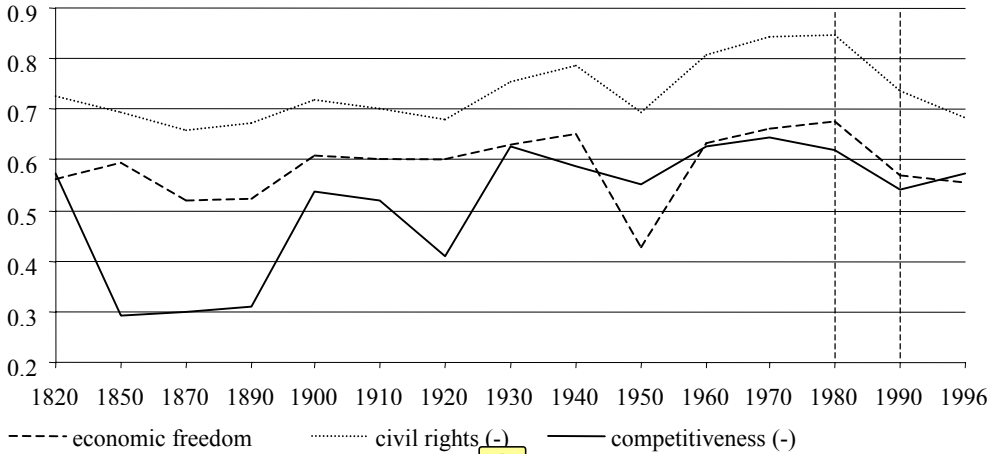
figure 7.3: causal graph of wealth (GDP) and cultural dimensions




sources: Pearson correlation coefficients: Brons 2002; original data: individualism (IDV) and power distance (PDI): Hofstede 1991, measured around 1970; post-materialism: Inglehart, Basañez & Moreno 1998, measured in early 1990s; GDP: Maddison 1995; UN 1999.

Unfortunately the lines in figure 7.3, with a possible exception for power distance (PDI), do not even closely resemble the ideal case of figure 7.1. While power distance and GDP are strongly related, there seems to be no time gap, and hence, the figure does not reveal a probable direction of the possibly causal relationship.

There are two peaks in the line representing correlations with individualism (IDV): one in 1900 and one in 1980, which seems to suggest that there is a 70-year time gap in the causal direction from wealth to individualism, and a 10-year time gap for the relationship in the opposite direction. The results for post-materialism look very similar, but as the measurement was of much later date, the interpretation is different. Both peaks now were earlier than the time of measurement of the dependent variable (p-Mat), and hence, there seems to be a unidirectional causality from wealth to post-materialism (with a very long time gap).

figure 7.4: causal graph of wealth (GDP), institutions and competitiveness

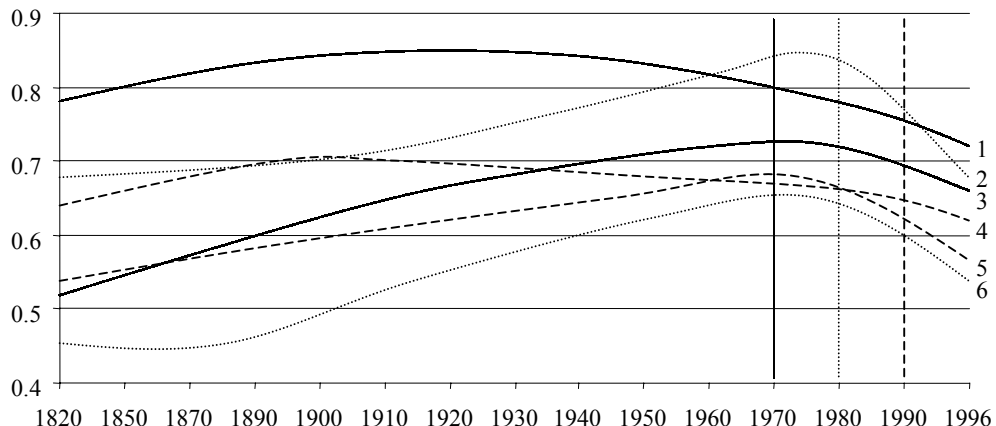
correlations to variables marked * are negative. 

sources: Pearson correlation coefficients: Brons 2002; original data: economic freedom: Gwartney, Lawson & Block 1996, measurement for 1990; civil rights index: Taylor & Jodice 1983 (*low score = more civil rights!*); measurement for 1980; competitiveness: Lynn 1991, measured by Spence & Helmreich around 1980; GDP: Maddison 1995; UN 1999.

Like the lines in figure 7.3, those in figure 7.4 do not come close to the ideal case. Nevertheless, all lines seem to suggest that the respective phenomena are influenced (or even caused) by wealth with very small time gaps.

The lines in figures 7.3 and 7.4 show some remarkable similarities. All six lines show clear drops around 1950 and four of the six show a similar drop around 1920. The most probable explanation hereof is war. The First and Second World Wars seriously affected the economy of nearly every country in the world (of the countries in the data set, at least). As different countries were affected differently this would result in lower correlations with data from later (or earlier) periods. Hence, to correctly interpret the causal graphs, it may be necessary to control for the effects of war and look at the trends only. Figure 7.5 presents such an attempt to correct the graphs for the First and Second World War.

figure 7.5: causal graph of wealth, culture and institutions: trends



1 = individualism; 2 = civil rights*; 3 = power distance*; 4 = post-materialism; 5 = economic freedom; 6 = competitiveness*. correlations to variables marked * are negative.

Vertical lines represent years of measurement of dependent variables and are in same style as corresponding correlation lines.

Figure 7.5 is considerably easier to interpret than figures 7.3 and 7.4. Nevertheless, it also has to be interpreted more carefully because the figure does not represent the actual data. There may have been small errors or mistakes in brushing out the effects of war that made the interpretation of the actual data in figures 7.3 and 7.4 that complicated. Based on figures 7.3 to 7.5, a number of conclusions can be drawn.

- (1) Individualism and post-materialism *may* be caused by wealth (GDP), but with considerable time gaps (of 50 to 100 years).
- (2) Power distance *may* be related to wealth (GPD), such that wealthier societies are less tolerant for inequality, but the exact nature and direction of this relationship remains uncertain.
- (3) Economic freedom and civil rights *may* be related to wealth (GDP), such that an increase of the latter results in an increase or improvement of the former. The time gap in this relationship seems to be very short (5 to 20 years).
- (4) Competitiveness *may* be negatively influenced by wealth (GDP) with a very short time gap (approximately 10 years).

As mentioned before, the results should be interpreted with care. The most minimal conclusion, however, would be that none of the relationships mentioned in the four conclusions above is falsified (see also § 7.1.1).

The above confirms (or at least seems to do so) parts of GT1, especially a number of modernisation theories such as Lewis's and Inglehart's (see § 7.2.2). The same data can also be used to test for possible cultural and institutional effects on economic growth as proposed in GT2. Correlations with economic growth (percentage of increase of GDP),

however, are far lower and far more erratic than those with wealth. Hence, causal graphs seem to be of little use in testing GT2.

Table 7.4 presents the two highest (absolute) peaks and the gaps between these peaks and the year of measurement of the non-time-series data. Correlation coefficients and gaps are shown for the first and second (in time) highest peaks. The highest correlations are printed in boldface.

table 7.4: *highest correlations between values, institutions, wealth and growth*

peak:	ρ wealth (GDP)		gaps		ρ growth		gaps	
	1st	2nd	1st	2nd	1st	2nd	1st	2nd
IDV	0.855	0.787	-70	+10	-0.258	-0.382	+5	+23
PDI	-0.686	-0.677	-30	+10	0.161	0.217	+5	+23
LTO	-0.827	-0.734	-60	-90	-0.518	0.667	-25	+15
p-Mat	0.711	0.727	-90	-20	0.403	0.333	-65	-45
EF75	0.580	0.605	-35	-15	0.236	0.217	-20	+10
EF90	0.608	0.676	-90	-10	0.191	0.319	-35	-5
EO	0.450	0.454	-140	-50	0.277	0.164	-55	+3
PRI	-0.721	-0.799	-160	-10	-0.399	0.314	-35	+13
CRI	-0.725	-0.847	-160	-10	-0.405	0.278	-35	+13
SHWE	-0.294	-0.218	-130	+10	0.508	-0.306	-35	+5
SHCS	-0.573	-0.643	-160	-20	-0.290	0.342	-35	+5
RLAM	-0.323	-0.220	-140	0	-0.410	-0.361	-65	-35

sources: Pearson correlation coefficients: Brons 2002; original data: IDV = individualism / PDI = power distance / LTO = long term orientation (Hofstede 1991); p-Mat = post-materialism (Inglehart, Basañez & Moreno 1998); EF75 = economic freedom 1975 / EF90 = economic freedom 1990 (Gwartney, Lawson & Block 1996); EO = economic openness (Dollar 1992); PRI = political rights index / CRI = civil rights index (Taylor & Jodice 1983); SHWE = Spence's & Helmreich's work ethic / SHCS = Spence's & Helmreich's competitiveness / RLAM = Ray's & Lynn's achievement motivation (Lynn 1991); GDP: Maddison 1995; UN 1999.

gaps: distance in years between year of measurement of variables; negative is measurement of economic variable *before* measurement of cultural / institutional variable; positive if measurement of economic variable *after* measurement of cultural / institutional variable.

Interestingly, if it is assumed that all correlations represent causal relationships, all cultural and institutional variables seem to be effects of wealth (GDP), most of them with very long time gaps. However, some variables are much more strongly correlated than others. Achievement motivation (RLAM) and work ethic (SHWC), for example, are negatively correlated to wealth, but these correlations are so low that these hardly support Bell's (1974) thesis that wealth leads to a declining work ethic. On the other hand, Bell's thesis cannot be falsified with absolute certainty on the basis of this data either.

Results for economic growth are very different. In most (but not all) cases, if a causal relationship is assumed, the direction of this causality seems to be from economic growth to culture or institutions, but most of the correlation coefficients are very low. Individualism (IDV) and power distance (PDI) seem to be the exception. Both are weakly correlated to economic growth such that it seems that, contrary to many theories, collectivism (low IDV) and high power distance promote growth. However, the correlation coefficients are far too low to support any theory. Only in the case of long term orientation (LTO) do there seem to be consistently strong correlations. Strangely, table 7.4 suggests that economic growth leads to a decline of LTO (with a time gap of approximately 25 years) and that high LTO results in economic growth (with a 15-year time gap), which would result in a cycle of periods with high LTO and low growth and periods with low LTO and high growth. However, in the theoretical literature (*e.g.* Hofstede 1991) LTO is considered to be an extremely stable dimension reflecting basic cultural differences between Western and Eastern cultures. Other *relatively* high correlation coefficients in table 7.4 suggest that economic growth leads to (causes) an improved work ethic, more civic and political rights and a decline of achievement motivation. The latter finding refutes T7.29 (see § 7.3.2).

Table 7.4 seems to reinforce the four conclusions based on the causal graphs presented above. Regarding most other relationships nothing conclusive was found. One small adjustment and one further conclusion seems to be justified. Firstly, not only are civil rights positively influenced by wealth, but political rights are as well (see conclusion 3 above). And secondly:

- (5) The very low correlations between work ethic and wealth and the positive correlation between economic growth and work ethic seem to falsify (or to make it rather improbable at least) Bell (1974) / T7.19.

7 / 6 / 2 / regional culture and economy

There are several reasons to test the CED on the very small spatial level of Dutch municipalities. First of all, the regional level tends to minimise institutional differences, which makes it easier to focus on the effects on and of culture. Secondly, many theories of the CED have been tested and some even confirmed at the international level, others have been tested on the micro level of the individual. Thus far it remains a mystery, however, whether similar macro effects can be found on scales smaller than countries. Moreover, in empirical research, it is often assumed that cultural differences are differences between countries. This is, of course, obvious nonsense since many countries have strong internal cultural differences. Moreover, as was explained in subsection 7.4.2, some cultural effects, such as the influence of religion, might be overpowered by stronger national cultural differences making the (inter-) national level an inappropriate level to study the CED.

The question whether regional cultural differences are important in explaining regional economic differences (and the other way around) still remains to be tested. This section,

therefore, is not only intended to further test theories of the CED, but also to test on which spatial scales significant relationships between culture and economy can be found.

The most easily tested versions of GTI are theories of the relationship between wealth and cultural values (see § 7.4). Preceding sections showed positive correlations between wealth measured as GDP and individualism and post-materialism, such that an increase in these two cultural variables is caused by an increase in wealth. In subsection 6.2.2 it was shown, that some of the measures of regional culture derived are significantly correlated to different measures of income. Table 7.5 presents a more complete overview of correlations between the five dimensions of regional culture and a number of measures of income.

table 7.5: *correlations between regional culture and income in the Netherlands*

	E.ainc	E.linc	E.ltli	E.hinc
PMA	-0.122	0.548	0.572	-0.364
PRC	0.017	-0.040	-0.033	0.033
IND	0.846	-0.448	-0.412	0.720
EAC	-0.112	0.267	0.313	-0.242
DST	0.088	-0.036	0.008	0.033

N = 487

E.ainc = average standardised income (in 1000s of euros) (1998-2000); E.linc = average percentage of households with low incomes (1999-2000); E.ltli = average percentage of households with long term low incomes (1999-2000); E.hinc = average percentage of households with high incomes (1999-2000).

PMA = post-materialism; PRC = Protestant conservatism; IND = (classical) individualism; EAC = egalitarian anti-conservatism; DST = dissatisfaction (see chapter 6 for measurement procedure).

The very high correlation between individualism (IND) and average income (E.ainc) seems to reinforce the results presented and found above: wealth leads to (classical) individualism. However, there is no significant correlation between post-materialism (PMA) and average income. Rather to the contrary, PMA is correlated to the percentage of households that have a long-term low income. The effect remains even after controlling for the degree of urbanisation (see table 6.14 in § 6.2.2). This seems to contradict the theory and earlier findings on the relationship between wealth or income and post-materialism. There are however (at least) four (possible) explanations for this deviation.

Firstly, it is very well possible that in a very rich and relatively egalitarian country such as the Netherlands the differences in wealth are too small to be relevant for the development of post-materialism. Above a certain threshold, a further increase in wealth may not further influence the level of post-materialism. The second possibility is that the causality runs in the opposite direction: in other words, that more post-materialist communities have more households with relatively low incomes, which could be the result of the fact that post-materialists value non-material (or non-monetary) achievements more highly. Thirdly, there

could be a common cause other than the degree of urbanisation explaining the coincidence of PMA and low-income. Fourthly and finally, PMA could measure something very different from post-materialism, which considering that all indicators pointed at post-materialism, seems not to be the most likely option (see § 6.2.2). However, in comparing further results found in this section and in earlier and other studies on the causes and effects of post-materialism, it is important to keep in mind that PMA possibly is not completely identical to post-materialism.

The availability of data on new firm formation by novice entrepreneurs (see § 6.3.2) makes it relatively easy to test at least part of GT2. Unfortunately, there is no satisfactory data on innovation available on the very small spatial scale used here, which limits the analysis to just one indicator (or measure) of entrepreneurship (see also § 6.3.2): the average number of newly founded enterprises divided by the labour force (E.strt).

In testing the effects of cultural values on entrepreneurship it is important to include possible non-cultural causes (*e.g.* Granato, Inglehart & Leblang 1996). In a series of regression models a few of these non-cultural causes were included: the degree of urbanisation; the size of the existing population of firms; the education of the labour force and the percentage of migrants in the population (see also § 7.4.2).

Cultural variables included were post-materialism (PMA), PMA corrected for degree of urbanisation, education and income (PMA-R), Protestant conservatism (PRC), and dissatisfaction (DST). The other two cultural variables, classical individualism (IND) and egalitarian anti-conservatism (EAC) did not appear to be related to new firm formation.

Both PMA and PMA-R were included, albeit in different regression models. PMA is a combination of both regional differences in culture and the effects of urban culture. Hence, PMA-R was used in models that also included (at later stages in stepwise regression) degree of urbanisation (U.durb) and the percentage of more highly educated in the labour force (L.Lfhe). Otherwise, the uncorrected PMA was used in the analysis.

Models 1, 2, 4, 5, 6, 7 were the results of a stepwise regression analysis. Models 3 and 8 were added later to complete the picture. Similarly, models 9 to 13 were the result of a second stepwise regression analysis.

table 7.6: regression models of new firm formation in the Netherlands (E.strt)

	1		2		3		4	
	<i>s.c.</i>	<i>sig.</i>	<i>s.c.</i>	<i>sig.</i>	<i>s.c.</i>	<i>sig.</i>	<i>s.c.</i>	<i>sig.</i>
PMA-R							0.256	0.000
E.estb	0.359	0.000	0.424	0.000	0.422	0.000	0.463	0.000
U.durb			0.398	0.000	0.344	0.000	0.404	0.000
L.lfhe					0.115	0.013		
R ²		0.129		0.282		0.299		0.347
	5		6		7		8	
	<i>s.c.</i>	<i>sig.</i>	<i>s.c.</i>	<i>sig.</i>	<i>s.c.</i>	<i>sig.</i>	<i>s.c.</i>	<i>sig.</i>
PMA-R	0.297	0.000	0.302	0.000	0.267	0.000	0.184	0.000
PRC	0.141	0.001	0.166	0.000	0.195	0.000	0.169	0.001
DST					0.201	0.000	0.257	0.000
E.estb	0.466	0.000	0.451	0.000	0.427	0.000		
U.durb	0.396	0.000	0.329	0.000	0.223	0.000		
L.lfhe			0.144	0.001	0.223	0.000		
R ²		0.365		0.381		0.410		0.119
	9		10		11		12	
	<i>s.c.</i>	<i>sig.</i>	<i>s.c.</i>	<i>sig.</i>	<i>s.c.</i>	<i>sig.</i>	<i>s.c.</i>	<i>sig.</i>
PMA	0.442	0.000	0.404	0.000	0.442	0.000	0.418	0.000
PRC					0.191	0.000	0.189	0.000
DST			0.207	0.000	0.222	0.000	0.183	0.000
E.estb	0.486	0.000	0.476	0.000	0.484	0.000	0.486	0.000
U.rimg							0.158	0.000
R ²		0.308		0.349		0.384		0.407
	13							
	<i>s.c.</i>	<i>sig.</i>						
PMA	0.321	0.000						
PRC	0.197	0.000						
DST	0.222	0.000						
E.estb	0.454	0.000						
U.rimg	0.166	0.000						
L.lfhe	0.173	0.000						
R ²		0.427						

dependent variable: E.strt = average (×1000) number of newly founded enterprises divided by the labour force (2001-2002). N = 410.

s.c. = standardised coefficient; *sig.* = significance.
PMA = post-materialism; PMA-R = PMA corrected for degree of urbanisation, education and income; PRC = Protestant conservatism; DST = dissatisfaction (see chapter 6 for measurement procedure).
E.estb = average (×1000) number of established enterprises divided by the labour force (2001-2002); L.lfhe = average percentage higher educated in labour force (municipalities larger than 10.000 inhabitants) (1997-2002); U.durb = degree of urbanisation (2003) (see table 6.3); U.rimg = share of immigrants not explained by degree of urbanisation (see table 6.3).

In both series of stepwise regression all three dimensions of culture mentioned above were included and proved to be highly significant in explaining regional differences in new entrepreneurship. The cultural dimension of post-materialism (PMA), the degree of urbanisation and the size of the existing population of firms seem to be the most important determinants. These three variables account for an R^2 of 0.347 in model 4 and in the model most similar in the second series, model 9: an R^2 of 0.308.

Interestingly, comparing models 3 and 7 shows that including cultural variables increases the explanatory power (R^2) of the model by 0.111, which is only slightly lower than the R^2 of model 8 (0.119) which used cultural variables alone. In the second series of models (9 to 13) the three cultural variables are the first to be added to the model after the existing firm population size, which further illustrates the importance of culture. Table 7.7 specifies the increase of R^2 after inclusion of the different cultural variables. In case of the second series of models, the impact of culture seems to be far greater, but this is caused by the fact that the measure of post-materialism (PMA) used in this series of models is not corrected for the degree of urbanisation and the level of education.

table 7.7: increase in R^2 by inclusion of cultural variables

	models 1-8	models 9-13
PMA-R	0,065	
PMA		0,179
PRC	0,018	0,035
DST	0,029	0,041
total	0,111	0,255

The relative importance of cultural variables is the same in both series of models. The effect of post-materialism (PMA) is the strongest, followed by dissatisfaction (DST) and Protestant conservatism (PRC). The other dimensions found in chapter 6, classical individualism (IND) and egalitarian anti-conservatism (EAC) did not significantly influence new entrepreneurship.

Some of the cultural effects found may seem to be somewhat surprising. The effects of Protestant conservatism (PRC) and dissatisfaction (DST), as expected, (to some extent) confirm theories and findings by Weber (1905) and Wildeman *et al.* (1999) respectively, but the *positive* influence of post-materialism contradicts Inglehart's (1990) claim that post-materialists are less entrepreneurially active. Again, this could mean that PMA actually measures something else, but there also may be other explanations.

The most obvious explanation for the positive influence of PMA on entrepreneurship is that one of the most important characteristics of post-materialism is self-development or self-expression. Because this is one reason for many entrepreneurs in the Netherlands and other Western countries to start firms (*e.g.* Smith 1967; Birley and Westhead 1994; see also § 7.4.2), there may be a positive relationship between post-materialism and self-employment

in (very) wealthy countries. While 'Postmaterialists emphasize economic achievement less than Materialists do, and they emphasize other kinds of achievement more' (Inglehart 1990, p.176), these 'other kinds of achievements' may still cause higher self-employment rates. Besides culture, the size of the existing population of firms, the degree of urbanisation and education seem to be important determinants of entrepreneurship. Models 12 and 13 also confirm Hoselitz's (1960; 1964) thesis that immigrants (as a socially marginal group) have higher levels of self-employment (see § 7.3.1 and § 7.4.1).

7 / 6 / 3 / summary and conclusions

Test results presented in this section confirm both aspects of GT1 and GT2. Wealth seems to cause individualism and economic freedom, for example, and Protestantism promotes entrepreneurship (or new firm formation at least). What was also clearly shown, is that the CED is not only relevant to the individual or micro level and to the (inter-) national or macro level but also to smaller scale territorial macro levels such as Dutch municipalities. The most important difference between the findings of this section and earlier sections is that the regional cultural dimension of post-materialism measured as PMA (see § 6.2.2) correlates to economic phenomena differently than Inglehart's international measure does. The latter has negative effects on self-employment for example, while PMA has a positive effect. This may, however, be caused by differences in motivations for self-employment. It may be the case that in a rich (and post-materialist) country such as the Netherlands new firms are founded more for reasons such as self-expression than to make as much profit as possible. Hence, post-materialism may promote entrepreneurship, but a different kind of entrepreneurship with a different kind of (post-materialist) entrepreneur.

7 / 7 / conclusions, results, and what remains untested

In this chapter a number of theories and empirical tests were presented. Some theories were confirmed, others rejected. Some theories were not tested at all or even seemed to be untestable. Even if a theoretical relationship *seemed* to be confirmed or refuted by empirical 'evidence', this was not necessarily the case due to the fact that tests rarely deal with the problems of testing for causality as explained in subsection 7.1.1.

This final section briefly reviews the most important old and new empirical findings that reached 'reasonable probability' (§ 7.7.1) and the theories that have not been or cannot be tested (§ 7.7.2). A more extensive review of the theoretical and meta-theoretical implications of the findings in this chapter is included in the next (and final) chapter.

7 / 7 / 1 / a summary of conclusions

Throughout this chapter a number of empirical findings were presented. However, in many cases empirical results were rather inconsistent. Only a relatively small number of conclusions seem, therefore, to be justified. Most of these, moreover, are related to GT2. The main findings are presented here, numbered 1 to 10.

- (1) Partly confirming GT1, increasing wealth results in cultural change. The most important effects found were an increase of (a) individualism; (b) post-materialism; (c) economic freedom; (d) civil and (e) political rights; and a decrease of (f) competitiveness. Contrary to theory, no effect of wealth on work ethic was found. (see §§ 7.2.2; 7.4.1 and 7.6.1)
- (2) There does not seem to be a consistent relationship between Hofstede's dimensions of culture and any aspect of entrepreneurship. Any possible value on any of Hofstede's dimensions may have a positive influence on any aspect of entrepreneurship.
- (3) Similarly, post-materialism in some studies negatively influences self-employment, while it was found to have a positive influence in the empirical part of this study. These different effects of the same cultural dimension on the same economic variable may be related to the fact that post-materialism is *non-atomic*. It is composed of several culturally different phenomena that may have contradictory effects. The lower valuation of profit and material wellbeing may negatively influence self-employment, while self-expression and self-development may promote it. The lack of consistent relationships between Hofstede's dimensions and entrepreneurship may be caused by the same phenomenon: some aspects of, for example, individualism have a positive effect on self-employment and innovation, while other aspects have negative effects (Nakata & Sivakumar 1996; Tiessen 1997; see §§ 7.3.2 and 7.4.2).
- (4) The only cultural dimension (if it is one) that seems to have a consistent and significant positive effect on self-employment is dissatisfaction. (§§ 7.3.2 and 7.6.2)
- (5) On the regional scale a positive effect of Protestantism on self-employment was found, confirming Weber's thesis (§§ 7.3.1 and 7.6.2). On the (inter-) national scale, however, no such confirmation was found (Kilby 1971; Lynn 1991). This may be caused by the fact that national cultural differences overpower religious and other types of difference. In other words, some cultural effects disappear on the (inter-) national scale.
- (6) Therefore, it may be advisable to study the CED (or the effects of cultural values on behaviour in general) on the regional rather than the (inter-) national scale. (§ 7.6)

- (7) Hoselitz's thesis that marginal groups such as ethnic minorities are more entrepreneurially active than their host populations seems to be sufficiently backed by empirical evidence.
- (8) Contrary to popular belief, there is *no* consistent evidence for the theory that entrepreneurship positively influences economic growth.
- (9) No consistent direct effects of culture on economy were found. It is often assumed that individualism promotes economic growth. In this chapter (§ 7.6.1), however, the opposite relationship was found: collectivism seems to positively influence economic growth. The evidence for this relationship, however, was not particularly strong.
- (10) Institutions do (or seem to at least) effect economic growth, but often are effects of economic growth and/or wealth as well. Hence, the direction of causality in this type of relationships is generally unclear.

7 / 7 / 2 / what remains untested

Although many of the theories presented in this chapter have been tested, at least as many remain untested or are only partially tested. The latter is especially the case for the more general theories that assume relationships between very broad categories (for example, the set of values and other non-institutionalised rules \mathcal{N} as a whole, rather than some specific and measurable subset), such as the general forms of HM and GT2. Table 7.8 presents the more general theories for which more detailed or more specific variants were tested:

table 7.8: *general and specific theories*

general theories	related, more specific theories	C	R	U
T7.8(a); T7.10(a); T7.11;	T7.14a; T7.18; <u>T7.19</u> ; T7.21(a); T7.30	X	X	X
T7.14; T7.15; T7.17				
T7.22; T7.23	<u>T7.30</u>	X		
T7.7; T7.24	<u>T7.25</u>	X		
T7.9; T7.26(a)	T7.27; T7.28; T7.29; T7.21b; <u>T7.26b</u>	X	X	X

C = (partly) confirmed; R = (partly) refuted; U = (partly) uncertain. Specific theories printed underlined were empirically refuted.

In addition to the theories that are difficult to test because they are too general, there are a number of theories that have not been tested for other reasons. T7.12 ($\Delta\{\mathbb{P}_{\text{div.lab}}, \Phi\} \Rightarrow^s \Delta\mathcal{N}_{\text{anomie}}$) and T7.20 ($\Delta\mathcal{I}_{\text{capitalism}} \Rightarrow^s \Delta\mathcal{N}_{\text{alienation}}$) (see § 7.2.2), for example, are untested and probably untestable for at least two reasons. Firstly, both anomie and alienation are extremely difficult to make operational, let alone to measure. Secondly, the nature of the relationships suggested is too unclear to make falsification possible. Many of the theories of

the CED suffer from similar problems. Often the nature of relationships tends to be very unclear (often it is assumed that it only holds under certain conditions, without a specification of these 'certain conditions'), and the categories related are extremely broad and ambiguous. Sometimes the causes and effects in the theory can only be classified rather than measured (see § 7.4.1). Sometimes even this is impossible.

The relationships between supposed causes and effects are, moreover, not necessarily causal, but may be conceptual. Bell's (1976) theory that capitalism causes alienation (T7.20) may be an example hereof. The Marxian concept of "alienation" refers among others to the situation wherein labour is a commodity, wherein people are no longer part of some traditional community but live and work in modern cities and industries, wherein people produce goods for the market rather than for their own use. It refers to an economy that is based on the M-C-M-model (use money M to buy commodities C to sell these for more money M), rather than on the C-M-C-model (sell commodities to buy other commodities). (see also § 3.4.1) Hence, alienation *is* capitalism (or at least an aspect thereof), rather than its effect.

In section 7.5 a number of theories were presented, of which only a small part was tested. Embeddedness (§ 7.5.1) can be interpreted in at least two ways. Embeddedness of behaviour is more or less an equivalent of the meta-behaviour - behaviour model. Embeddedness of actors was illustrated with an example from firm relocation research.

Subsection 7.5.2 dealt with theories on the cultural conditions for economic growth. These theories could be interpreted and formalised as theories of weak causation, although this, strictly speaking, would be incorrect because the supposed relationships are not (directly) causal. Only very few of these theories have been tested.

Theories on the influence of institutions and consumption on economic growth and theories on the relationship between geography, culture and economy (§§ 7.5.3-5), like the theories in table 7.8, are far too broad to be tested. A number of more detailed theories were tested, however. Education, democracy and political stability may positively influence development. The influence of consumption and the physical environment, however, remains relatively unclear.

Testability and related problems, such as the question whether CED relationships are of a conceptual rather than causal nature, are further dealt with in the next chapter. Chapter 8 starts with a more extensive review of the theories and tests presented in this chapter and then continues with implications and considerations based on the whole of this study.

chapter 8

CONSIDERATIONS AND IMPLICATIONS

Κακοὶ μάρτυρες ἀνθρώποισιν ὀφθαλμοὶ καὶ ὄτα βαρβάρους ψυχὰς ἐχόντων.
(*Eyes and ears are bad witnesses to men if they have souls that do not understand their language.*)
Heraclitus of Ephesus 6th century BC, fragment 107

Wovon man nicht sprechen kann, darüber muß man schweigen.
Ludwig Wittgenstein 1922, § 7

8 / 1 / introduction

The empirical tests presented in the preceding chapter can be used to refine the CED, to determine which theories or aspects can be considered to be (relatively) plausible and which are not. Not all (possible) theories of the CED have been tested, however, and those that have been were tested with different methods of varying rigor, and yielding very different results. The main goal of this study, however, was not to present a final comprehensive theory on the relationships between culture and economy (a *theoretical* synthesis of the CED), but to determine what it means to ask (scientific) questions on these relationships and why these questions seem to be so important in / to social science (which could be regarded as a *critical* synthesis of the CED).

Chapter 1 stated that the goal of this research project consisted of a number of interrelated parts of which the most important were: (1) a comparison and analysis of the existing theories of the CED, (2) a review of their empirical (dis-)confirmation, (3) the construction of some kind of synthesis and finally, (4) to consider the relevance and implications of these research questions and their answers to social science in general and human geography in particular (see § 1.2). Most of these parts have been dealt with in preceding chapters. This final chapter deals with the possibility of synthesis, with meta-theoretical issues and with implications for social science. Section 8.2 briefly reviews the theories and tests presented in chapter 7. Some meta-theoretical conclusions based on this review are presented in section 8.3. This latter section deals with the scientific status of the CED and the nature of the relationship in CED theories mainly, but also considers (the) synthesis of

the CED. Sections 8.4 and 8.5 assess the implications for social science hereof and of the rest of this study. The final section (§ 8.6) summarises this chapter and presents some closing comments.

8 / 2 / a review of theories, confirmations and refutations

In chapter 7 three groups of CED theories were presented. The first group included historical materialism, the first grand theory of the CED, and related stage and modernisation theories. The second group originated from the second grand theory of the CED, Weber's theory on the 'entrepreneurial spirit', and included theories on cultural influences on entrepreneurship and economic growth. The third group was labelled "minor theories" because these were not directly related to either of the two grand theories.

This section reviews these theories and their empirical (dis-) confirmation, insofar as (dis-) confirmation is possible, of course (see § 7.1.1). Subsection 8.2.1 briefly reviews the theories and results presented in (sub)sections 7.2 and 7.4.1 (the first grand theory); subsection 8.2.2 deals with (sub)sections 7.3, 7.4.2-3 (the second grand theory) and 7.5 (minor theories). New empirical tests presented in section 7.6 are integrated in subsections 8.2.1 and 8.2.2. Section 8.3 continues with some meta-theoretical considerations, conclusions and some notes towards a synthesis based on the review presented in this section.

8 / 2 / 1 / historical materialism

The first grand theory of the CED (GT1) was historical materialism (HM), a body of interrelated theories, ideas and remarks developed by Marx and Engels on the economic causes of social, political and cultural change. Many versions and interpretations of HM exist. An integrated version of HM was formulised as T7.6:

$$\mathbf{T7.6_R} \quad [\Delta \{ \Phi, \mathbb{M} \}_{\text{PCD}} \stackrel{w}{\Leftrightarrow^s} \Delta \mathbb{M}_{\text{leg.pol}}] \stackrel{w}{\Leftrightarrow^s} \Delta (\mathbb{M} - (\mathbb{M}_{\text{PCD}} \cup \mathbb{M}_{\text{leg.pol}})) .$$

The most important theories of HM, 'sub-theories' of T7.6, as developed by Marx and Engels themselves were:

$$\mathbf{T7.7_R} \quad \Delta \mathbb{M}_{\text{prod}} \Rightarrow^s \Delta \mathbb{M}_{\text{leg.pol}} , \text{ and}$$

$$\mathbf{T7.8_R} \quad \Delta \{ \mathbb{B}_{\text{PCD}}, \mathbb{M}_{\text{PCD}} \} \Rightarrow^s \Delta (\mathbb{M} - (\mathbb{M}_{\text{PCD}} \cup \mathbb{M}_{\text{leg.pol}})) .$$

Neither of these two theories has been statistically confirmed. In case of T7.7 statistical testing is nearly impossible because the categories or phenomena related seem to be measurable only as nominal variables. In other words, the causes and effects in these theories can be classified only (in which a change Δ would be a change only if it involves a class boundary crossing, which would imply that change is a conceptual rather than a 'real' event). Moreover, the spatio-temporal scale of these theories limits the possibilities for data gathering for statistical analysis. There is, for example, not enough data available to statistically test whether the introduction of agriculture ($\Delta\mathbf{M}_{\text{prod}}$) lead to changing political systems ($\Delta\mathbf{M}_{\text{leg.pol}}$) in all or nearly all cases. Nevertheless, historical analysis suggests that T7.7 may be true.

T7.8 is untestable mainly because its categories are far too broad. It is possible to test whether particular economic differences are related to particular cultural phenomena, but not whether the *whole* of productive, consumptive and distributive behaviour *and* meta-behaviour is causally related to the *whole* of *other* meta-behaviour. However, T7.8 proved to be inspirational to many theorists in the 20th century. Modernisation theories are generally variants of T7.8 and are in some cases more specific and may hence be testable.

Besides these 'children', HM has 'parents' too. Before Marx and Engels, a number of 18th century scientists and philosophers including Vico and Smith suggested that the values (\mathcal{N} : Smith) or values and ideas ($\mathcal{N}\cup\mathcal{T}$: Vico) of a society are determined by the way that society deals with nature and natural resources as a means of subsistence \mathbf{P}_{SNT} :

$$\mathbf{T7.11}_R \quad \Delta\mathbf{P}_{\text{SNT}} \Rightarrow^s \Delta\mathcal{N} .$$

This notion of \mathbf{P}_{SNT} (Vico's 'order of institutions') is strongly related to the 19th century concept of "economy" as \mathbf{M}_{PCD} . Both \mathbf{P}_{SNT} and \mathbf{M}_{PCD} are subsets of \mathbf{M}_{SNT} , the meta-behaviour of subsistence, transformation of nature, technology and economy. Combining strong causality in T7.6 (and, hence, T7.7, T7.8) and T7.11 in a single meta-theory of GT1 would result in:

$$\mathbf{T8.1} \quad \Delta\{\mathbf{M},\Phi\}_{\text{SNT}} \Rightarrow \Delta(\mathbf{M}-\mathbf{M}_{\text{SNT}}) ,$$

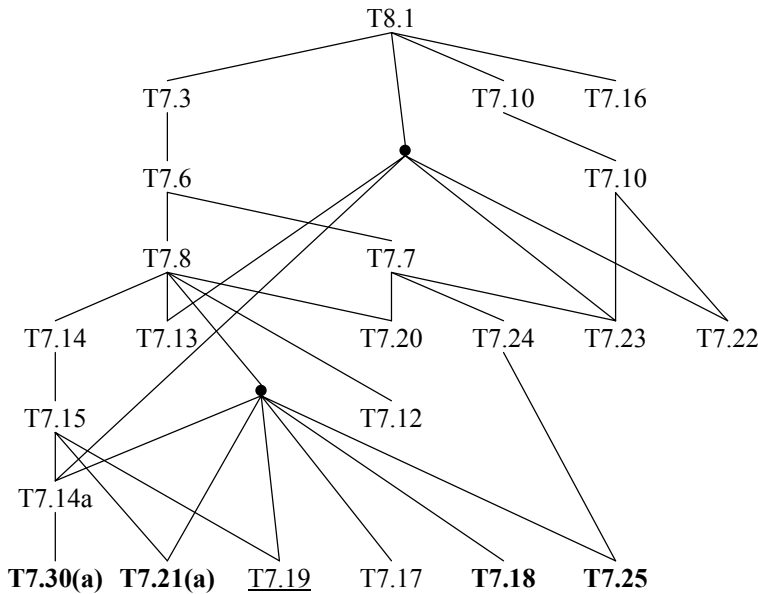
in which Φ_{SNT} is the set of all actual entities related to subsistence, (transformation of) nature, technology and economy of which actual behaviour related to SNT, \mathbf{B}_{SNT} , is a subset that includes the 20th century interpretation of "economy" as \mathbf{B}_{PCD} (in formal terms: $\mathbf{B}_{\text{PCD}} \subset \mathbf{B}_{\text{SNT}} \subset \Phi_{\text{SNT}}$). T8.1 can be interpreted as 'natural and other circumstances and the way societies deal with these to assure their existence determines (or influence at least) (other aspects of) their culture'.

Like T7.8, T7.11 and/or T8.1 are difficult, if not impossible, to test. Of course more specific versions of these theories can be tested and confirmed, but a theory that is more general than its confirmation is hardly a good theory (see also § 7.2) and is in need of refinement. Falsification of a more specific version, on the other hand, would not refute

these general theories since they do not claim that there is a causal relationship for every possible subset of the causes and effects in the general theory.

Figure 8.1 graphically represents a taxonomy of GT1 theories showing the many variants and versions of the theory. Unfortunately, many of the modernisation theories and other variants of GT1 developed in the course of the 20th century are just as general as T7.8 or T7.11 (for example: T7.14; T7.15; T7.16; T7.17; T7.24). Others were more specific but untestable nevertheless, because their categories were immeasurable or indistinguishable from other phenomena (for example: T7.12; T7.13; T7.20; T7.22; T7.23).

figure 8.1: *a taxonomy of the first grand theory*



Weak causality in the opposite direction (from culture to economy) is ignored in this taxonomy.

Theories confirmed empirically are printed boldface; refuted theories are underlined.

The two black dots represent non-formalised intermediate theories; the dot below T8.1: effect = individualism; the dot below T7.8: cause = wealth.

Only four (groups of) theories were relatively specific and assumed a relationship between measurable phenomena. Firstly, theories of the effects of some subset of $\{\mathbf{M}, \Phi\}_{\text{SNT}}$ on the level of individualism (a subset of \mathcal{N}) (the theories connected by lines downward from the upper black dot in figure 8.1). This group includes T7.14a and T7.30(a), which assume that individualism is promoted by wealth $\mathcal{V}(\mathbf{B}_{\text{PCD}})$; T7.13, which assumes that individualism is caused by money; and T7.22 and T7.23, which assume that individualism is caused by changes in the way that society deals with nature and natural resources as a means of subsistence \mathbf{P}_{SNT} or by changes in the institutions, rules and customs of production \mathbf{P}_{prod} .

The latter three theories, however, seem to be rather difficult to test. In case of T7.13 this is mainly caused by the fact that the institution of money seems to coincide with other economic differences. In case of T7.22 and T7.23 this is because \mathbb{P}_{SNT} and \mathbb{P}_{prod} cannot be measured appropriately for statistical testing. On the other hand, the other theory of this group:

T7.30a $\triangleq \mathcal{V}(\mathbb{B}_{\text{PCD}}) \Rightarrow^s \triangleq \mathcal{N}_{\text{individualism}}$,

the theory that increasing wealth leads to increasing individualism, is empirically confirmed repeatedly.

The second group consists of Inglehart's theories on the influence of wealth on post-materialism, postmodernism, rationality and/or self-expression. All of the latter are strongly interrelated. Hence, these theories can be summarised as:

T7.21_R $\triangleq \mathcal{V}(\mathbb{B}_{\text{PCD}}) \Rightarrow^s \triangleq \mathcal{N}_{\text{post-materialism}}$.

Like T7.30a, T7.21 seems to be confirmed empirically although the 'evidence' is not as strong and the relationship may not be linear.

The third 'group of theories' consists of a single theory, Bell's claim that increasing wealth causes a decreasing work-ethic (T7.19). There seems to be little empirical evidence for this theory.

Like the third, the fourth group consists of a single theory, the theory that increasing wealth results in increasing economic freedom (T7.25), which is closely related to T7.7. T7.25 is confirmed by both historical analysis and statistical tests. Related theories that were not included, but nevertheless empirically confirmed, claim that increasing wealth also leads to more civil and political rights, although Douthwaite (1992) showed that there may be a limit to this process, beyond which a further increase of wealth leads to a decrease of civil rights.

8 / 2 / 2 / the entrepreneurial spirit

The second grand theory (GT2) was introduced by Weber, who claimed that capitalism was the result of the 'entrepreneurial spirit', which in turn was caused by Protestant asceticism and rationalism. In most of the Weber-inspired theories, it was assumed that values promote some aspect or indicator of entrepreneurship (see § 7.3) and that the latter promotes economic growth. Weber himself, however, assumed that not just values \mathcal{N} but also ideas \mathbb{T} influence entrepreneurship. Moreover, not all theorists are equally explicit on the relationship between entrepreneurship and economic growth. Therefore, the most general forms of GT2 are:

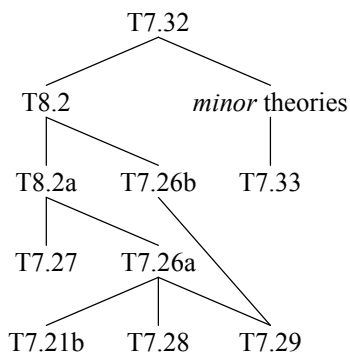
T8.2 $\triangle M \Rightarrow \triangle B_{\text{entrepreneurship}} \Rightarrow \triangle \Delta \mathcal{V}(\mathcal{B}_{\text{PCD}})$,

of which the first half is the most important (or at least most fertile) part:

T8.2a $\triangle M \Rightarrow \triangle B_{\text{entrepreneurship}}$.

Nearly all studies in GT2 were special cases of T7.26a ($\triangle \mathcal{N} \Rightarrow \triangle B_{\text{entrepreneurship}}$), itself a special case of T8.2a. The specific values (causes) and the aspect or indicator of entrepreneurship (effects) differ widely among theorists, however. Among values suggested to have positive effects are individualism (Tawney), need for achievement (McClelland), internal locus of control (Thomas & Mueller) and many, many more. Inglehart's post-materialism, on the other hand, is assumed to have a negative effect. After Hofstede's measurement of international differences in value orientations, empirical research in the CED, especially in GT2, skyrocketed. By now every possible value (high / low) on Hofstede's dimensions has been related to some aspect of entrepreneurship. Figure 8.2 graphically represents a taxonomy of GT2 theories and *minor* theories of the CED.

figure 8.2: a taxonomy of the second grand theory and minor theories



Empirical confirmation of GT2 is far less strong than that of GT1. Many correlations between aspects of entrepreneurship (new firm formation or self-employment and innovation mainly) have been found, but few effects have proven to be consistent. Individualism and Hofstede's other dimensions may have positive and negative effects; the same is true for post-materialism. The relationship between values and entrepreneurship is far more complex than often assumed.

While the confirmation of the first part of GT2 is unclear (and inconsistent), the second part of GT2, the theory that entrepreneurship promotes economic growth (T7.26b), was shown to be even more uncertain. There simply is no consistent empirical evidence for this part of the theory. Neither do there seem to be other strong and/or clear effects of culture on economic growth. Theories of such 'other effects' haven't been labelled "minor theories" in

chapter 7. These include theories on the influence of institutions, consumption, and geography, and theories that do not assume that culture causes economic change but may facilitate it. Some institutions, such as the educational system and democracy, *may* promote economic growth; others, such as economic freedom or openness, do not seem to have (measurable) effects.

The possible influence of consumption is more problematic due to the fact that consumption is strongly influenced by wealth (income) and production (including marketing as an aspect of productive and distributive behaviour). The relationship is difficult to test because there does not seem to be useable data available on consumption. Moreover, the influence of wealth and production may make the cultural impact on consumption relatively unimportant.

Geography, finally, is important in the CED in two ways. Firstly the system of the CED itself is always located in a physical environment that limits and guides the possibilities of both poles. The economic pole, defined as $\{\mathbf{M}, \Phi\}_{\text{SNT}}$ is clearly related to geography, but so is culture. Landscape, for example, may be an essential part of cultural identity (*e.g.* Matless 1998). Secondly, agglomeration (including urbanisation) as a cultural phenomenon may strongly influence the economic potential of cities and regions.

8 / 3 / towards a synthetic theory of the CED

Besides the empirical results summarised and reviewed in (sub)sections 7.7.1 and 8.2, some meta-theoretical conclusions can be drawn from this study. This section deals with questions on, for example, the scientific status of the CED and the nature of the relationship (conceptual or causal; see § 7.7.2) in the different types of theories. Hence, this section tries to present at least part of the answer to the question what it means to study the CED, which was the impetus for the research project. By reviewing these meta-theoretical issues and especially by analysing the relationships in the CED, this section also aims at synthesis or at least at the assessment of the possibility of synthesis.

8 / 3 / 1 / meta-theoretical issues

The overview of theories and tests presented in chapter 7 and briefly reviewed above resulted in some theoretical conclusions on the CED summarised in subsection 7.7.1, but also leads to a smaller number of *meta-theoretical* conclusions. The three main conclusions of this type are related to variety, falsifiability, and complexity.

Firstly, the body of theories on relationships between culture and economy is characterised by a bewildering variety of concepts, categories and ideas. There seem, however, to be two

broad types of theories: (1) very broad and vague theories that are impossible to test; and (2) very specific theories that are mostly tested but are not always consistently confirmed or refuted. Most of the theoretical contributions seem to be of the first type. The conclusion that the CED is reigned by vagueness and conceptual confusion seems to be justified. But the tremendous variation in theories and empirical results also suggests that there is no such thing as a single body of theories of the CED. There are many theories, some of these are related historically, others are related theoretically or conceptually, but there also are many broken links, loose ends and new starts.

Secondly, many of the relationships within the CED are so complex and/or so vague, that falsification is virtually impossible. The relationship between post-materialism and entrepreneurship may serve as an example (another example, that of GT1, was explained in § 8.2.1). Inglehart assumes that post-materialism negatively influences entrepreneurship, which seems to be empirically confirmed. In a new test presented in subsection 7.6.2, however, the opposite is found: post-materialism positively influences entrepreneurship. The problem is, that both relationships are easily explained and defended, which implies that no empirical result can falsify the theory. Hence, this specific theory of the CED cannot be falsified, which means, according to Popper (1935), who of course has a point, that it is *unscientific*.

The problem is not typical only for this specific example, however, but for the whole of the CED (and possibly even for the whole of social science). The general theories are too vague to test and (even) the more specific theories often include enough external influences, loopholes and other escapes to explain why negative test results are not a refutation. Hence, the CED (and its many theories) are irrefutable and therefore unscientific.

Thirdly, for every increase in detail there is a corresponding increase in complexity. For every theory there is number of more specific theories, some of which seem to be confirmed while others are refuted, hence, a claim that $\Delta\mathbf{B}_X \Leftrightarrow \Delta\mathbf{M}_Y$ may, after testing of more specific theories (theories on the relationships between subsets of \mathbf{B}_X and \mathbf{M}_Y), have to be replaced by $\Delta\mathbf{B}_{X1} \Rightarrow \Delta\mathbf{M}_Y \Rightarrow \Delta\mathbf{B}_{X2}$ (in which case $\Delta\mathbf{B}_X \Leftrightarrow \Delta\mathbf{M}_Y$ still would be true, but not very useful). Similarly, summarising the empirically confirmed theories in a single theory results in something like:

$$\mathbf{T8.3} \quad [\Delta\{\mathbf{M}, \Phi\}_{\text{SNT}} \stackrel{w}{\Leftrightarrow} \Delta(\mathbf{M} - \mathbf{M}_{\text{SNT}})] \Rightarrow^w \Delta\mathbf{B}_{\text{entrepreneurship}} ,$$

in words: the category of meta-behaviour, behaviour and (other) actual entities related to the way a society deals with nature and natural resources and with their technological possibilities as a means of subsistence influences or (co-)determines and is influenced by other aspects of meta-behaviour and together these two categories influence the level of entrepreneurship. However, focusing in on more specific relationships dramatically changes the picture:

$$\text{T8.4} \quad \Delta\{\mathbb{M}, \Phi\}_{\text{SNT}} \supset \left\{ \begin{array}{c} \Delta\mathbb{M}_{\text{prod}} \Rightarrow \Delta(\mathbb{C} \cup \mathbb{T} \cup \mathbb{N})_{\text{leg.pol}} \\ \Downarrow \\ \Delta\Delta\mathcal{V}(\mathbb{B}_{\text{PCD}}) \Leftarrow \Delta\mathcal{I} \\ \Downarrow_s \quad \quad \quad \Uparrow \\ \Delta\mathcal{V}(\mathbb{B}_{\text{PCD}}) \Rightarrow^s \Delta\mathcal{N} \\ \Delta\mathbb{B}_{\text{entrepreneurship}} \stackrel{w}{\Leftarrow} \end{array} \right\} \subset \Delta(\mathbb{M} - \mathbb{M}_{\text{SNT}}) ,$$

in which $\} \subset \Delta(\mathbb{M} - \mathbb{M}_{\text{SNT}})$ means that the categories before $\}$ are subsets (\subset) of $\Delta(\mathbb{M} - \mathbb{M}_{\text{SNT}})$ and $\supset\{$ has a similar meaning but with a reversed (right to left) direction. An increased focus on more detailed theories would even further complicate the picture. (T8.4 could be translated in ordinary language, but this would require half a page at least and would not make it any clearer.)

T8.3 and T8.4 could be interpreted as syntheses of the CED; however, as pointed out above, a further focus on detail results in a further complicated theory. For every theory, there is a set of more detailed theories that are not simply copies of the more general theory they are special cases of. Hence, whether categories are (causally or otherwise) related may be primarily dependent on what phenomena they comprehend. In other words, whether culture and economy are related is dependent on what exactly these concepts mean in a theory. Moreover, as shown before, seemingly causal relationships may in fact be conceptual rather than causal (see also § 7.7.2).

All of this implies that:

- (1) whether there is a relationship between categories is partly dependent on categorisation, and hence, is a partly conceptual question; and
- (2) the nature of the relationship (if there is one) *may* be conceptual rather than causal;
- (3) therefore, studying (theories and/or relationships of) the CED is conceptual analysis.

Of these points, the second thus far received the least attention. The next subsection deals with the question which types of seemingly causal relationships are conceptual and how this affects the CED.

8 / 3 / 2 / further thoughts on behaviour and meta-behaviour

In this and preceding chapter(s) it was repeatedly suggested that the relationship between the opposing and interacting elements in different theories of the CED may be more of a conceptual than of a causal nature. This subsection further investigates this suggestion and its implications for the CED and the synthesis thereof.

In terms of behaviour and meta-behaviour, the many theories of the CED distinguished, formalised and tested in chapter 7 are all special cases of three fundamentally different general forms:

T8.5 $\Delta\mathbb{M}_x \Rightarrow \Delta\mathbb{B}_y$,

T8.6 $\Delta\mathbb{M}_x \Rightarrow \Delta\mathbb{M}_y$, and

T8.7 $\Delta\mathbb{B}_x \Rightarrow \Delta\mathbb{M}_y$.

The possible nature(s) of the relationships may differ between these general forms, which may be illustrated by assessing the different implications of the assumption ξ that $x = y$. The first, T8.5(ξ), is true by definition:

D8.1 $\forall x [\Delta\mathbb{M}_x \Rightarrow \Delta\mathbb{B}_x]$,

as in chapter 5 meta-behaviour was defined as everything social that influences or determines behaviour, which was formalised as D5.1 ($\forall x[\Delta\mathbb{M} \Rightarrow \Delta\mathbb{B}]$). D8.1 is D5.1 in context x . As D5.1 was non-contextual, including context does not change its truth-value, therefore: D8.1.

The effects of ξ in the second and third cases, T8.6(ξ) and T8.7(ξ), are very different. In T8.6(ξ) the causal relationship dissolves as cause and effect would be related by identity rather than by causality. T8.7(ξ), on the other hand, is not fundamentally different from T8.7. The relationship does not change and neither is there a definition similar to D8.1, but with reversed causality, to make T8.7(ξ) true by definition.

In conclusion: T8.5(ξ) is a causal relationship that is true by definition; T8.6(ξ) is a relationship of identity rather than causality; and T8.7(ξ) is a possibly causal relationship that may be true depending on empirical confirmation. Hence, T8.5(ξ) and T8.6(ξ) are conceptual and T8.7(ξ) is empirical; or, in Kantian terms (see §2.2.1), T8.5(ξ) and T8.6(ξ) are analytic and T8.7(ξ) is synthetic.

If it is further assumed that (assumption ζ) all theories of the general forms of T8.5 and/or T8.6 are necessarily conceptual and if the symbol \sqsubset is defined such that:

D8.2 $\forall x,y [x \sqsubset y \leftrightarrow (\mathbb{M}_x \sqsubset \mathbb{M}_y \wedge \mathbb{B}_x \sqsubset \mathbb{B}_y)]$,

then:

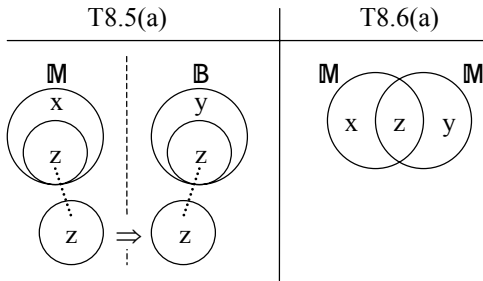
T8.5a $\forall x,y [\Delta\mathbb{M}_x \Rightarrow \Delta\mathbb{B}_y \rightarrow \exists z [z \sqsubset x \wedge z \sqsubset y \wedge \Delta\mathbb{M}_z \Rightarrow \Delta\mathbb{B}_z]]$, and

T8.6a $\forall x,y [\Delta\mathbb{M}_x \Rightarrow \Delta\mathbb{M}_y \rightarrow \exists z [z \sqsubset x \wedge z \sqsubset y]]$.

In words: if there is a (perceived) causal relationship of the form T8.5, there is a common core to the related phenomena; and if there is a (perceived) causal relationship of the form

T8.6, the related phenomena overlap (see also figure 8.3). An example of the latter case (T8.6a) was given in subsection 7.7.2 where it was explained that the cause and effect of T7.20 ($\Delta \mathcal{I}_{\text{capitalism}} \Rightarrow^s \Delta \mathcal{N}_{\text{alienation}}$) overlap. Alienation is an aspect of capitalism, hence, the relationship is conceptual rather than causal.

figure 8.3: Venn-Euler diagrams of T8.5(a) and T8.6(a)



T8.5a was not illustrated as explicitly before. D8.1 holds that, by definition, entrepreneurial meta-behaviour ($\mathbb{M}_{\text{entrepreneurship}}$) (co-) determines entrepreneurial behaviour ($\mathbb{B}_{\text{entrepreneurship}}$). In chapter 7 it was repeatedly claimed (see §§ 7.2 and 7.3) and/or found that, for example, individualism and post-materialism ($\mathcal{N}_{\text{individualism}}$ and $\mathcal{N}_{\text{post-materialism}}$) are somehow related to entrepreneurial behaviour. T8.5a then claims that there must be an overlap between $\mathbb{M}_{\text{entrepreneurship}}$ and $\mathcal{N}_{\text{individualism}}$ and/or $\mathcal{N}_{\text{post-materialism}}$, $\mathbb{M}_{\text{overlap}}$, and that this overlap causes a type of behaviour $\mathbb{B}_{\text{overlap}}$ that is a subset or aspect of $\mathbb{B}_{\text{entrepreneurship}}$. Interestingly, most explanations of theories or empirical findings of the form T8.5 conform more or less to T8.5a. Inglehart's claim that post-materialism negatively influences entrepreneurship, for example, is (a.o.) defended by claiming that post-materialists value profit less, while the aim for profit is a defining characteristic of entrepreneurial behaviour and meta-behaviour (see box 8.1).

box 8.1: an example of a T8.5a-like argument

Theory θ claims that:
 $\Delta \mathcal{N}_{\text{post-materialism}} \Rightarrow -\Delta \mathbb{B}_{\text{entrepreneurship}}$,
 which is defended and/or explained by:
 $\mathcal{N}_{\text{profit-goal}} \not\subset \mathcal{N}_{\text{post-materialism}}$, and
 $\mathcal{N}_{\text{profit-goal}} \subset \mathcal{N}_{\text{entrepreneurship}} \leftrightarrow \mathbb{B}_{\text{profit-goal}} \subset \mathbb{B}_{\text{entrepreneurship}}$,
 which are definitional statements and:
 $\mathcal{N}_{\text{profit-goal}} \Rightarrow \mathbb{B}_{\text{profit-goal}}$,
 which is true by definition (D8.1), and which implies (or at least seems to) that θ is true.

The problem with an argument like that in box 8.1 is that other subsets of the supposed cause and effect may be differently related. In contradiction of θ , it was shown in subsection 7.6.2, for example, that the self-expression aspect of post-materialism may cause self-expressive behaviour by means of self-employment, which is an aspect of entrepreneurship (see §§ 7.6.2 and 8.3.1).

Up to this point, it was assumed that all theories of the forms T8.5 and T8.6 are necessarily conceptual (assumption ζ). As all examples of these general forms in the preceding chapter conform to T8.5a and T8.6a, it may be concluded that ζ has been sufficiently verified, which, nevertheless, does not support the necessity assumed in ζ (necessity is a theoretical rather than an empirical claim). Whether T8.5 and T8.5 are *necessarily* conceptual is dependent on an assessment of not- ζ .

If not ζ , then there must be some (possible) cases $\Delta\mathbf{M}_x \Rightarrow \Delta\mathbf{B}_y$ in which x and y are completely unrelated. It seems, however, to be absurd that two phenomena bounded by *completely* unrelated x and y respectively are nevertheless causally related. Moreover, it is quite difficult, if not impossible, to come up with an example because it seems that for every possible x and y some overlap is conceivable. In conclusion: not not- ζ ; therefore: ζ .

While all theories of the first two forms are conceptual, those of the third (T8.7) are not. T8.7 is a special case of:

T8.7a $\Delta\Phi \Rightarrow \Delta\mathbf{M}$,

which claims that meta-behaviour is dependent on the set of actual entities. In other words: rules, ideas, values, institutions, concepts, and so forth are influenced (if not co-determined) by (the conditions of) the world or reality they are formed in. Or in evolutionary terms: changing (or different) natural conditions lead to 'a shift in survival strategies' (Inglehart 1997, p. 66). A more or less similar point was, of course, made much earlier by Vico (1725/44; see §§ 3.2.2 and 7.2.2). Most examples of T8.7(a) specified in chapter 7 focus on the influence of wealth on values and institutions.

Rather than T8.3 and T8.4 in subsection 8.3.1, T8.5(a) to T8.7(a) can be regarded the synthesis of the CED. By implication, the CED is a mix of conceptual confusions (T8.5(a) and T8.6(a)) and 'shifts in survival strategies' (T8.7(a)). Not surprisingly, it was the latter part that seems to be empirically confirmed most consistently.

8 / 3 / 3 / summary, synthesis

Three strongly related conclusions were drawn in this section. Firstly, it was found that most theories of the CED (and the CED as a whole) are very broad and vague and allow many loopholes and exceptions making falsification virtually impossible (even if testing is possible, negative results generally do not lead to falsification). Hence, the CED is unscientific.

Secondly, for every increase in detail there is a corresponding increase in complexity. Every increase of focus on a specific theory reveals a number of 'sub-theories' that may have very different causes and effects and may even work against each other.

And thirdly, it seems that, broadly speaking, there are two types of theories in / of the CED: (1) theories that are misunderstood conceptual overlaps (T8.5(a) and T8.6(a)); and (2) theories on the (external) conditions of (types or aspects of) meta-behaviour (8.7(a)). This last (third) conclusion may be regarded the *synthesis* of the CED.

The synthesis implies that empirical findings do not necessarily point at real world facts; they may be artefacts produced by conceptualisation and measurement. 'Eyes and ears are bad witnesses to men if they have souls that do not understand their language' (Heraclitus 6th century BC, fragment 107).

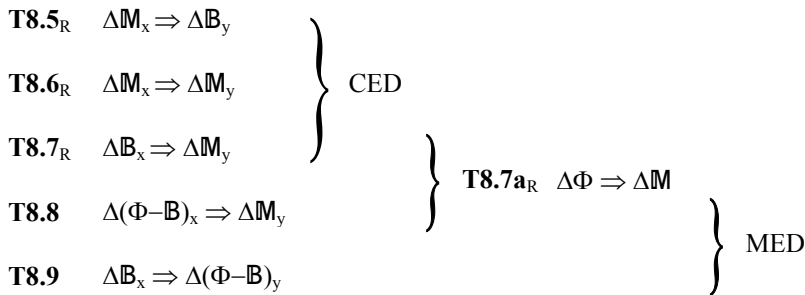
8 / 4 / science, society and the CED

In section 2.5 a dialectic was defined as a pair of concepts (or phenomena) that are conceived to be binary opposites but that do in fact interact and/or overlap. Hence, a dialectic is a kind of pseudo-dichotomy. The culture - economy *dichotomy* is a *dialectic* because its concepts overlap and the phenomena associated interact. The conceptual overlap, the fact that there are no discrete and independent spheres of reality labelled "culture" and "economy" (see chapters 3 to 5), implies that the culture - economy dichotomy *as a dichotomy* is a misconception. Moreover, the interactions or interrelationships seem to be the product of the conceptual overlap rather than of social 'laws'. As shown above (§ 8.3.2), many of the assumed relationships between culture and economy are conceptual rather than causal.

The birth and development of the social sciences is interwoven with the history of the culture - economy *dialectic* (CED) (see § 3.2.2). Moreover, the translation of the CED in the meta-behaviour - behaviour framework seems to be a subset of (or even coincides with) social science. In section 8.3, three types of CED relationships were distinguished: T8.5 to T8.7 (repeated below). These three types of relationships are the same basic problems studied in most of the social sciences and most social science questions and problems can be translated as special cases of these three types of relationships or combinations thereof.

(Note that $\Delta B_x \Rightarrow \Delta B_y$ is the only possible combination missing in T8.5 to T8.7. $\Delta B_x \Rightarrow \Delta B_y$, however, is necessarily mediated by some ΔM and is hence a combination of T8.7 and T8.5 of the form: $\Delta B_x \Rightarrow \Delta M_z \Rightarrow \Delta B_y$.)

The exception to this rule is classical geography, which studied the man - environment dialectic (MED). Formalising both directions of the MED as T8.8 and T8.9 (in which $\Phi-B$ is the set of actual physical, non-behavioural entities, the (physical) geographical environment) and adding these to the list results in the following five types of relationships studied by social science:



The whole of social science studies T8.5 to T8.9. Hence, social science is the combination of the CED and the MED. The conclusion that the CED is at least partly the result of conceptual categorisation rather than of real (social) world phenomena (see § 8.3.2) and other findings of this study may, therefore, have implications for social science. The final sections of this chapter (and this book) present some considerations on the (probably) most important implications of this study for social science and its methods.

This section focuses on geography (§ 8.4.1), social science and its methodology (§ 8.4.2) and the application of social science in public (regional economic) policy (§ 8.4.3). Section 8.5 deals with disciplinary, conceptual and other boundaries, and with the notion of free choice, which seems to be fundamental to many approaches in social and political science. Section 8.6, finally, summarises the findings of this concluding chapter and presents some closing comments.

8 / 4 / 1 / reinventing geography

In the introduction to this section it was stated that social science studies five types of relationships: three types of CED relationships and two types of MED relationships. In practice, however, the man - environment dialectic (MED) receives fairly little attention, certainly not since the death of classical geography. Social science is dominated by the first three relationships. Hence, in practice, social science – more or less – coincides with the CED.

The MED was the defining subject of (classical) geography (see § 3.6), but was effectively removed from the discipline by two revolutions. The quantitative revolution of the 1950s changed geography into a kind of sterile social geometry and the mainly Marxist (counter-) revolution of the 1970s introduced a new conceptual and theoretical framework. The first of these revolutions destroyed the MED, the prime subject and defining characteristic of classical geography; the second removed the rubble (left by the first) and replaced this by the fashion of the day. Rather than returning the field to its conceptual and theoretical roots, through (a.o.) Marxism, a new conceptual framework was introduced: the CED.

Classical geography was effectively dead by the 1970s and what replaced it is better labelled "spatial sociology" and/or "spatial economics" than geography. Since the 1970s geographers mainly occupied themselves with applying and 'spatialising' or 'regionalising' sociological and economic theories. Modern geography is no longer concerned with T8.8 and T8.9 but with regionalised versions of T8.5 to T8.7. Original theoretical contributions to social science by *post-classical* geographers seem to be extremely rare. In fact, it may be the case that Harvey's (1989) theory on post-modernism and the socio-spatial effects thereof is the only – more or less – original geographical theory with some impact (although one might wonder whether this is really a geographical theory).

Modern (or post-classical) geography seems to suffer from fuzzy concepts, scanty evidence and limited policy relevance (*e.g.* Markusen 1999; Rodríguez-Pose 2001). One could, therefore, be inclined to conclude that for a geographer, there is not much in his or her discipline to be proud of. If it were not for the centuries of geographical thought before the two revolutions mentioned above, this conclusion would be justified. However, geography is a far richer field than the last fifty years of mathematical abstractions and confused theoretical poverty suggest (see also § 3.6). Geography as the study of the MED includes many eminent scientists and philosophers such as Hippocrate, Aristotle, Albertus Magnus, Montesquieu, and Ritter (see § 3.6.1). The research program these scientists and philosophers contributed to, the MED, however, has experienced little development in the last half century (see § 7.5.5). There is plenty to be proud of for a geographer as long as one looks back far enough.

The fact that geography abandoned the MED (T8.8 and T8.9) and focused on the CED (T8.5 to T8.7) instead implies that a part of social science is now left relatively neglected. (A few social scientists are still working on the MED (see § 7.5.5), but these rarely come from a geographical background.) Whether the contributions from modern geography to the study of relationships of the types T8.5 to T8.7 are very relevant is, moreover, doubtful (*e.g.* Markusen 1999; Rodríguez-Pose 2001).

Geographers should choose whether to continue the field as a kind of spatial(-ised) sociology or economics with little impact and little social (and scientific) relevance, or to reinvent the field, to reclaim its (proper) domain by returning geography to its theoretical and conceptual roots: to study how the geographical environment influences and determines social structure (meta-behaviour) (and how social behaviour changes the environment). This does not mean that geography should return to theories about the influence of climate

on cultural development (e.g. Huntington 1915; see also § 3.6.1), although there is – in principle – little wrong with researching this, but it means that geographers should focus on how geographical features and differences, how the natural and the socio-spatial environment, and how distance and space influence institutions, concepts, values, ideas, and the like and, through these, behaviour. It is, for example, not regional difference itself that should be studied by geography, but the geographical causes (and effects) of regional difference.

The MED is an essential part of social science. It is this part of social science that is the defining subject of classical geography. Geographers, however, have left this part lying fallow for too long. There is a world to *regain* for geography.

8 / 4 / 2 / social science as empirical conceptual analysis

Of the five types of relationships studied by social science, two are conceptual rather than causal. Hence, T8.5 ($\Delta\mathbb{M}_x \Rightarrow \Delta\mathbb{B}_y$) and T8.6 ($\Delta\mathbb{M}_x \Rightarrow \Delta\mathbb{M}_y$) should be studied by means of conceptual analysis. The conceptual structure of these relationships was explained in T8.5a and T8.6a, which claimed that the poles of a T8.5-type relationship have a common core and that the poles of a T8.6-type relationship overlap (see § 8.3.2 and figure 8.3).

Conceptual analysis involves more than specifying definitions. Fries and Nelson, for example, argued that conceptual analysis uncovers implicit or hidden presuppositions and meanings (Yolton 1961; see also § 2.2.2; a more or less similar argument for definitional analysis was forwarded in Whitehead & Russell 1910-3). Having and using a concept does not necessarily mean that we can analyse it by theoretical means alone. Empirical analysis may help sort out the essential from the trivial. Empirical analysis may contribute to the uncovering of these implicit or hidden presuppositions and hence to conceptual clarification.

The argument presented in box 8.1 may be considered an exemplar for social science reasoning: some empirical relationship is found which is explained by assuming a common conceptual core (or overlap). Only rarely, however, is the scientist concerned aware that he or she is practising conceptual analysis and only rarely can the analysis pass any standard of *decent* conceptual analysis.

Nevertheless, social science could be regarded as a kind of *empirical conceptual analysis*. For example, consider the relationship between post-materialism and self-employment: $\Delta\mathbb{M}_{\text{post-materialism}} \Rightarrow \Delta\mathbb{B}_{\text{self-employment}}$. According to T8.5a, there is some subset \mathbb{M}_z of $\mathbb{M}_{\text{post-materialism}}$ that is by definition D8.1 causally related to some subset \mathbb{B}_z of $\mathbb{B}_{\text{self-employment}}$. The nature of this subset is, however, not necessarily clear and cannot be revealed by theoretical analysis alone because *none* of the sets (or phenomena) mentioned in this example is internally homogeneous and/or unambiguous. There are many entities and effects and these may contradict each other.

If z (the link between post-materialism and self-employment) is the aim for profit, post-materialism should influence self-employment negatively; if z is a preference for

independence and self-development on the other hand, post-materialism would probably promote self-employment. The problem is that z is both and much more, and that it is not at all clear which aspects and effects are more important (in which situations). Empirical analysis may help to reveal this. In the case of this example, however, it was found that on the (inter-) national scale the relationship between post-materialism and self-employment was negative, while it was positive on the regional scale. Hence, empirical analysis did not result in a final answer.

In many cases, as in this example, relationships are assumed and/or researched between internally heterogeneous categories, between concepts and phenomena that are too vague and too broad. As shown above (see § 8.3.1), increasing the level of detail will increase the complexity of the relationship or theory, resulting in a complex network of contradictory and/or amplifying effects.

Conceptual and empirical analysis may complement each other in clarifying the categories and relationships of (or in) the theory. The broader the categories, however, the more empirical analysis is needed and the more complicated the conceptual analysis will be.

The primary task of social science is to discover (or better: ‘uncover’) patterns and rules (etc.): the elucidation of meta-behaviour (*e.g.* Winch 1958). Explaining social behaviour is specifying meta-behaviour. However, meta-behaviour is not directly observable. The epistemological argument for behaviourism holds that we can only observe behaviour (actions or behavioural events) and that, therefore, social science should be a science of behaviour. Hence, social science is left with no option but to study behaviour to uncover meta-behaviour that guides behaviour. (see also §§ 5.2.1 and 6.2.1)

Since patterns p were defined in subsection 5.2.2 (see figure 5.3) as:

$$\mathbf{D8.3} \quad \forall m [m = p \leftrightarrow \exists \varphi, b [\text{rlif}(m, \varphi, b)]]$$

(a pattern p is a meta-behavioural entity m that suggests or prescribes action / behavioural event b in case of condition φ), the above implies that social science should proceed by classifying and counting behavioural events b (types of \mathbb{B}) and correlating these to data about the conditions φ , the environment and properties of the actors involved. This is an demographical or epidemiological approach. Applying it to economics or economic geography could, for example, result in a demography of firms. As a research strategy, demography of firms involves a theoretical or conceptual and an empirical part. The first, theoretical or conceptual part focuses on classification and conceptualisation of events and objects (firms) (*e.g.* Struijs & Willeboordse 1988; 1995; Brons 2001). The second, more empirical or practical part models population change (*e.g.* van Wissen 1997; 2000) and/or counts, correlates and explains events (*e.g.* Birch 1979; van Dijk & Pellenbarg (eds.) 1999).

Social science is (and should be) a mix of conceptual and empirical analysis. The two complement each other. Conceptual analysis without empirical research is sterile and often

ignores vital information that may result from empirical analysis. Empirical analysis without conceptual analysis on the other hand often results in ill-conceived operationalisations, theoretical confusion and misconception, and limited (scientific) relevance. In other words: conceptual analysis, ontology or statistical classification (which are similar strategies to solve similar problems; see chapter 2) are (or need to be) an essential part of social science.

8 / 4 / 3 / culture, entrepreneurship and regional policy

The social and political relevance of the CED is most obvious in regional policy (RP). Hence, some of the findings of this study may be relevant to RP. The goal of RP generally is to improve the economic situation of underdeveloped regions within a country (or group of countries such as the European Union). The prime focus tends to be on fighting unemployment. Many theories of the CED assume that entrepreneurship (either self-employment, innovation, or both) positively influences employment growth (see § 7.3), and hence, many regional policies attempt to promote entrepreneurship.

Cultural difference may be important in or to RP. Although no consistent relationships between culture and economy were found, cultural differences, which include differences in economic practices, institutions, and so forth, may influence the success or failure of a regional policy. A policy to promote entrepreneurship in a region where this is traditionally valued negatively, for example, is doomed to fail.

There is a more fundamental problem associated to this kind of policy, however: the belief that entrepreneurship promotes economic growth may be just that: a belief, a myth rather than reality. There is no consistent empirical evidence that levels of new firm formation, self employment and or innovation positively influence economic growth (§ 7.4.3). On the other hand, wealth does seem to influence the levels of innovation and self-employment. Hence, an RP that focuses on the promotion of entrepreneurship does not seem to be particularly helpful. (Unfortunately, what kind of regional policy would work is difficult to say and the answer surely cannot be found in this book.)

RP is the product of a preference for equality. This preference for equality, however, also influences the methods of RP. Generally a single policy or a small number of policies are (equally) applied to very different regions (in the European Union, for example, the same policies have been applied in parts of Spain, Ireland and Sweden). Fighting inequality by assuming equality in needs, however, does not seem to be the most obvious solution.

Among many other things, culture influences the economy. The concepts may be problematic and the relationships may be conceptual rather than causal, but there *are* relationships nevertheless. Different regions may have different cultures that may differently influence different aspects of the economy and respond differently to different policies. RP should, therefore, be based on difference, rather than similarity. Each region or

culture has its own strengths and weaknesses to exploit and to improve upon. Regional economic policies should take these strengths and weaknesses into account rather than try to fit a general system to very different regions.

8 / 4 / 4 / summary

There are five basic types of relationships studied by social science. These are the three relationships of the CED distinguished in section 8.3 (T8.5 to T8.7) and the two relationships of the MED (T8.8 and T8.9). The focus, however, tends to be on the first three relationships.

By implication, a part of social science, the MED, is relatively neglected. The MED was originally the subject of (classical) geography, but in the second half of the 20th century, this discipline transformed into a 'spatialised' and/or 'regionalised' sociology and economics. Geography has contributed very little to social science ever since. The limited relevance of modern geography and the fact that its original subject is left fallow argues in favour of a return to the MED, a return to the *geographical* explanation of regional difference, a return to the study of relationships between people and their environment(s).

As the study of (social) behaviour, social science attempts to elucidate meta-behaviour. This means that social scientists study behaviour to uncover meta-behavioural entities that explain the behaviour studied. This is (and/or should be) done by means of a combination of conceptual and empirical analysis. Moreover, of the five types of relationships of social science in general, two are conceptual rather than causal. Hence, these relationships should be studied by means of conceptual analysis. Conceptual analysis in social science should, however, in many cases be supplemented by empirical analysis to distinguish essential from trivial characteristics of concepts, categories and phenomena.

Regional policies are at least partly based on social science. Many regional policies are related to CED theories on culture, entrepreneurship and economic growth. No consistent relationship between entrepreneurship and economic growth was found, however. Moreover, regional policies insufficiently deal with regional cultural difference. Although culture does not necessarily influence culture directly and/or measurably, it may influence the success or failure of regional policies.

8 / 5 / boundaries, anarchism and free choice

According to Comte (1830-42), science progresses through three stages: theological, metaphysical and positive. In the theological stage the world experienced is explained by reference to supernatural forces. In the metaphysical stage explanation is dependent on

abstract concepts and speculation. Only in the third and final stage, positive science is substituted for superstition and metaphysics. Comte claimed that most of the sciences had advanced to the positive stage. The main exception was sociology, which was founded – as a scientific discipline – by Comte himself. Comte hoped that the new discipline would progress through the stages quickly, but more than one-and-a-half centuries later, the social sciences still do not seem to have passed the metaphysical stage. (Orthodox economics with its belief in markets as 'invisible hands' seems even to be lingering in the first stage.) Theories of culture, economy and entrepreneurship, and the social sciences in general are infested with myths, abstract concepts without real-world counterparts and petrified contingencies. It seems that many of our beliefs and perceptions are based more on myth than on reality.

Besides the notions of "culture" and "economy" and many theories of the CED itself, two of the most persistent (types of) myths are *boundaries* and *the myth of free choice*. Boundaries play an immensely important role in (social) science, in the CED and in our lives. To define is to delimit, to draw boundaries around the proper usage of a concept (Suppe 2000; see also § 2.2.3). Boundaries are drawn between 'us' and 'them', between groups, between cultures and between regions, and between scientific fields. This study dealt with boundaries repeatedly, although rarely explicitly.

In section 5.2 it was explained that choices (for behavioural events, acts or actions) are determined in an interaction of reason, will and habit. The latter two are the product of reason, natural drives and culture; the former is influenced by culture through perception. In other words, choice is determined by (human) nature, culture and/or reason. If choice is determined, how can it be free?

This section deals with these two myths. Subsection 8.5.1 focuses on the phenomenon of boundaries and their effects; subsection 8.5.2 assesses the idea of free choice in relation to the behaviour - meta-behaviour framework proposed in chapter 5.

8 / 5 / 1 / against all boundaries: a plea for anarchism

In its most common usage, the concept of "boundary" denotes a dividing line between regions or countries. As a scientific concept, however, it has far broader meaning. Boundaries are the dividing lines between or the *limits* of classes. (Note that regions are spatial classes.) The first attempt to define "limit" was probably Aristotle's:

'Limit' denotes the last point of anything, i.e. the point beyond which it is impossible to find any part of it, but within all its parts are found. (...) It is clear, then, that the word 'limit' has as many senses as 'beginning'; more senses, in fact, for every beginning is a limit but not every limit is a beginning. (Aristotle 4th century BC, § Δ.17)

All classes are limited; all classes have boundaries. However, the nature of boundaries differs between different types of classes. Spatial classes (regions), social classes (groups), intensional and extensional classes (aspects of concepts; see §§ 2.2.3 and 2.7.1 and figure 4.1 in § 4.4), and mathematical classes (sets) all have very different types of boundaries.

Boundaries can be either *fuzzy* or *crisp* (they can have breadth or not). Fuzzy boundaries imply fuzzy class membership and vice versa and the same is true for crisp boundaries and crisp class membership. In mathematics, lines and boundaries do not have breadth. In social reality, however, boundaries (and, therefore, class-membership) tend to be fuzzy. The fuzziness of spatial (and social) spatial boundaries is often related to conceptual (intensional and/or extensional) boundaries:

The reason why it's vague where the outback begins is not that there's this thing, the outback, with precise borders; rather there are many things, with different borders, and nobody has been fool enough to try to enforce a choice of one of them as the official referent of the word 'outback'. (Lewis 1986, p. 212)

Concepts were defined in subsection 2.7.1 as ordered sets of term \mathcal{T} , meaning \mathcal{M} , and sets of related concepts \mathcal{O} , \mathcal{S} and \mathcal{H} :

D2.5_R $\mathcal{C} =_{\text{def.}} \langle \mathcal{T}, \mathcal{M}, \mathcal{O}, \mathcal{S}, \mathcal{H} \rangle$,

hence, concepts are classes of classes and therefore are limited by boundaries on multiple levels. Generally, the boundaries of a concept determine the range of its applicability in different times and contexts (which are themselves bounded) (*e.g.* Leibniz 1684; see also § 2.2.1). Like all boundaries, conceptual boundaries can be either fuzzy or crisp. Whether boundaries of meaning and reference (intensional and extensional boundaries) are fuzzy depends on the specific concept and the theory of meaning (see § 2.2.3) adhered to. Intension and extension of classical concepts are crisply bounded, for example, and intension and extension of prototype concepts are fuzzily bounded. The boundaries of the sets of related concepts \mathcal{O} (linguistically, theoretically and ontologically related concepts), \mathcal{S} (semantically related concepts) and \mathcal{H} (historically related concepts) are necessarily fuzzy as the degree of (fuzzy) set membership in all of these sets is dependent on the strength of the relationship.

Boundaries, whether fuzzy or crisp, are not *given* entities but are constructed. The idea of 'the myth of the given' was introduced by Sellars (1963; see also § 2.2.1) to refer to the idea of an intrinsically basic language. According to Sellars, there is no such thing. There are no final definitions or translations, no definite boundaries between concepts and no *aternalae veritates* (Nietzsche 1878; see also § 5.1). Concepts and categories and the boundaries between them are imposed and contingent classifications of reality: 'We dissect nature along lines laid down by our native languages. (...) We cut nature up, organise it into

concepts, and ascribe significances as we do' (Whorf 1956, p. 213; more fully quoted in § 2.1.1; see also Goodman 1972; Davidson 1974; Putnam 1981; and § 2.2.1). Hence, concepts cannot be true or false, but can be practical or impractical and extremely misleading. The fact that a certain concept or category bounds a part of reality (or our perception thereof) does not necessarily mean that this part has any relevance *as a distinct part* in reality. The fact that we have a concept for something does not necessarily mean that this something exists independently, discretely and/or continuously. The fact that we perceive a boundary between kinds or categories does not deny the existence of borderline cases.

There are no given distinct spheres of reality and, hence, no boundaries between them. There is no economy; there is no culture. These are mere concepts applied to 'a life that in its original coming is continuous' (James 1909, p. 235; see also § 5.1). We perceive, classify and remember reality through our changing, contingent language. Language provides the blinkers that guide and limit our thought and perception (see also § 2.1.1).

Like conceptual boundaries, socio-spatial boundaries are not given, but constructed (*e.g.* Allen, Massey & Cochrane 1998; Paasi 1999). Regionalisation, like all classification, is a human activity, not a natural phenomenon:

Boundaries are complicated, historically contingent phenomena that are concomitantly both contextual social institutions and symbols, and are constituted on various spatial scales in various institutional practices and discourses. (Paasi 1999, p. 680)

With the exception of administrative boundaries, socio-spatial boundaries are extremely fuzzy. Many socio-spatial boundaries, moreover, seem to have little social impact in ordinary spatial experience as boundaries and regions only seem to play a role in spatial cognition on greater distances (*e.g.* Norberg-Schulz 1971). Only when actively enforced, as in the case of many state boundaries, or in case of atypical behaviour, such as long-distance relocation (see § 7.5.1), boundaries seem to be socially important.

Anthropologists and other social scientists dealing with culture generally assume that there are distinct and – more or less – bounded cultural groups: cultures. Maps and measurements of culture, such as (and including) those in chapter 6, however, show that culture is an extremely heterogeneous patchwork independent of scale. Every seemingly homogeneous area that could be perceived as *a* culture shows to be extremely heterogeneous after more detailed measurement.

Cultures then cannot be characterised by *common* norms, values, ideas, concepts, etc. There is no *common* core. For every norm, value, and so forth in a (cultural) group, there are some members who do not adhere to that norm, value, etc. Possibly, cultures can be regarded as family resemblances (see § 2.2.1), although the high level of variation on each socio-spatial scale does not suggest this. Even family resemblances have some kind of common core (in the form of a pool of properties) that cultures seem to lack. A more obvious explanation for

the variation measured is that culture is nothing but the *average of individual* – but socially formed – norms, values, ideas, concepts, and so forth of / in a contingently bounded group. There may be a majority of group members that adhere to this average, but there will always be deviants that are nevertheless classified as members of the same cultural group. Hence, membership of a cultural group and cultural boundaries (see also Brons 2005) are extremely fuzzy. One could even argue that there are no cultural boundaries and therefore no cultures.

Regional boundaries and boundaries between cultural groups then do not represent actual real world differences, but are imposed. Boundaries are acts of power. Administrative (regional) boundaries are imposed by state power; other regional and cultural boundaries are often imposed by socio-cultural leaders or by scientists (*e.g.* Kimble 1951).

Just as regional or cultural classification or boundary setting are acts of power, so is classification in general, although it is often difficult to determine who is in control. In the case of ordinary language conceptualisations of reality, it is the group of language users as a whole who unconsciously control the categorisation and boundary setting of their perception of reality. In social science, on the other hand, it often is the scientist who controls the boundaries between his categories or classes. The boundaries between culture and institutions, for example, if drawn, are drawn by scientists, not by social reality.

As many phenomena relevant to the CED were found to be quantitatively immeasurable and only operationable as nominal variables (see § 7.7.2), these phenomena are dependent on the boundaries between the categories of these nominal variables. Whether a society is alienated or not is not a matter of reality, but of definition, of classification, of boundary-setting.

Social science itself is divided in a number of disciplines. These disciplines and the disciplinary boundaries therebetween are the result of the historical process from which the social sciences originated. The boundaries are reinforced by institutions and concepts. The distinct field of economics, for example, makes sense only if the economy is conceptually distinguished from the rest of social reality. As mentioned above, such conceptual distinctions, however, are not reflective of social reality; social reality is not divided into different (*e.g.* economic, cultural) spheres. The distinction of economics from sociology (or *vice versa*) is based on different perceptions and conceptualisations of reality; not on different aspects thereof. Or, as Wallerstein (1999) claims, none of our existing modes of dividing the social sciences into separate disciplines and separate organisations of knowledge makes sense. Disciplinary boundaries, nevertheless, are sustained (mainly) by the institutions of and in the different social sciences. Although multi- or inter-disciplinarity has become fashionable recently, it is more of a buzzword than actual scientific practice.

Boundaries are epistemological mystifications. Boundaries are expressions of power, not of reality, and should therefore be banned from science (except as an object of study).

Regional, cultural, conceptual and scientific boundaries do not represent real world phenomena, but the categories we, by means of our institutions, impose upon it.

In 1975, Feyerabend published his *Against method*, subtitled: *outline of an anarchistic theory of knowledge*. Feyerabend's work, however, argued for *anarchy* rather than *anarchism* in science. The difference may seem subtle, but it is not. Anarchism is not necessarily against rules; it is against *rule* (e.g. Carter 2000). Anarchism does not strive for anarchy (as this concept is usually understood, with a possible exception for some forms of lifestyle anarchism; see Bookchin 1995), but opposes (differences in) power. An anarchist approach to science is *not without method, but without boundaries* (and without authority).

Boundaries are harmful to science in at least two ways. Firstly, they misrepresent reality; and secondly, they are expressions of power and authority which are among the chief enemies of reason (e.g. Gellner 1992). Hence, a more anarchist attitude towards science and reality is needed. Such an anarchist approach to (social) science:

- (1) is (really) multi-disciplinary by definition as it does not recognise disciplinary boundaries;
- (2) questions all concepts and categories, which implies that every research project should start with conceptual analysis;
- (3) questions all authority, which throws the anarchist scientist back on radical doubt: there is no other authority to the anarchist scientist than reason.

8 / 5 / 2 / the myth of free choice

The second myth to be rethought in this section is the myth of free choice. The main question here is: If choice is determined (by culture, nature and/or reason), how can it be free? The answer given by Spinoza, Kant, Hegel, Marx and many others is that reason is the key to freedom (see § 3.2.1).

Choices made under the influence (or even pressure) of cultural norms and values are *not* free choices, *neither* are actions driven by (human) nature the result of free choice: 'the delirious, the garrulous and others of the same sort think that they act from the free decision of their mind, not that they are carried away by impulse' (Spinoza 1674, p. 391). Contrary to culture and (human) nature, reason is a conscious, individual process. Hence, rational choice – and rational choice alone – is free choice.

As 'men are conscious of their own desire, but are ignorant of the causes whereby that desire has been determined' (Spinoza 1674, p. 390), the unhindered pursuit of some irrational desire is merely pseudo-freedom. Culturally determined behaviour is unfree and by implication, culture is the chief enemy of liberalism, and "religious freedom" is an oxymoron.

Free choice is the result of reason alone. However, reason is limited. Miró Quesada's (1963; see also § 3.2.1) showed that reason as 'la facultad del conocimiento lógico-matemático' (p. 208), as a result of Gödel's (1931) theorem, cannot be *complete*. A rational or logico-

mathematical argument necessarily contains some 'formally undecidable propositions' (Gödel) that are supplied by intuition (Miró Quesada). In other words: rational thought necessarily leaves a gap that is filled with non-rational intuition, which through expectations and desires, is a product of habit, will, culture, and the like. Hence, choice cannot be the product of reason alone and therefore, there cannot be (completely) free choice.

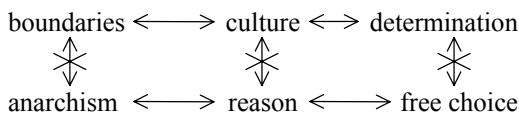
Moreover, the process of rational deliberation is further restricted by the fact that men (1) are not omniscient and (2) are generally incapable of performing the complex calculations necessary for a completely rational choice (e.g. Simon 1957; 1959). A related idea was expressed half a century earlier by Freud in his argument that nothing is irrational from the actor's point of view (e.g. Wallerstein 1999). Human rationality is *bounded* by limited knowledge and limited intellectual capacities (Simon) and what is a rational choice is dependent on *his* knowledge and *his* capacities (Freud). The theory of bounded rationality reinforces the conclusion that all choice is (necessarily) co-determined by unreason (culture and nature) and that therefore, free choice is a myth. (Although choice cannot be free, it could be argued, however, that the *more rational* a choice, the *less unfree* it is.)

If choice is necessarily unfree, many theories in social and political science are built on myth. The extreme example of orthodox economics, in which some kind of Spinozian free man, the *homo economicus*, who is perfectly rational, perfectly free and omniscient, serves as a model for man, immediately springs to mind. There are, however, many other fields, theories and disciplines in political science and philosophy, in ethics and in law and in the social sciences which are based on the idea of free (and/or rational) choice. (This problem is not further pursued here as it would require an extensive research project of its own.)

8 / 5 / 3 / against culture: summary and conclusion

The two myths dealt with in this section are not completely unrelated as shown in figure 8.4. The problems of boundaries versus anarchism and of determination versus free choice are strongly related to the culture - reason dichotomy, which is a branch of the same tree the CED sprung from (see §§ 2.5.3 and 3.1).

figure 8.4: *boundaries and choice*



Boundaries are inseparably bound to categorisation and are enforced and sustained by institutions (power). Hence, boundaries are cultural or conversely *culture is boundary setting*. By implication, culture leads to a misrepresentation of reality, to epistemological

mystification. Therefore, culture hinders science. Moreover, culture is unreason, culture is unfreedom. Culture interferes with rational thought both indirectly, by misrepresenting reality, and directly, by influencing decisions. As such, culture is not only harmful for science, which is dependent on reason, but also for freedom. As Gellner (1992) puts it (somewhat bluntly): 'Reason is *purification*. By contrast, culture is corruption-on-earth' (p. 55).

However, we cannot do without classification, without language; hence, scientific anarchism is necessarily limited. Conceptual anarchism as a research strategy (*question* all concepts) may be useful, the complete *rejection* of all concepts, however, would make science and even communication itself impossible. Like anarchism, reason, and therefore, free choice, are limited, albeit for different reasons. Hence, we are at the mercy of Gellner's 'corruption-on-earth'. As scientists, we have no choice but to fight unreason, knowing that this is a fight that cannot be won.

8 / 6 / dissolution

The research project that resulted in this manuscript set out to answer a number of questions on the history, meaning and implications of the culture - economy dialectic (CED (see § 1.2). The main research question was not so much a question about actual cultural influence on the economy or vice versa, but about what it means to ask such a question. To answer this question, a four-part research strategy was proposed consisting of: (1) comparison and analysis; (2) a review of (dis-)confirmation; (3) synthesis; and (4) an assessment of implications. Parts 1 to 3, however, required conceptual analysis and the construction of some kind of common language and/or a set of translation rules. As a consequence hereof, the CED was studied on three different, but not independent, levels: (1) conceptual (chapters 3 to 5); (2) theoretical or relational (chapters 3 and 7); and (3) meta-theoretical (chapters 5 and 8). This final section reviews and comments upon the main findings of these three levels. Subsection 8.6.1 mainly deals with the conceptual level: with conceptual history and social ontology. The relational level, focusing on the theories of the CED and their empirical (dis-)confirmation, is reviewed in section 8.6.2. Methodological, philosophical and other meta-theoretical issues, mainly dealt with in this last chapter, are reviewed in subsection 8.6.3. Subsection 8.6.4, finally, concludes this study.

8 / 6 / 1 / the *trialectic*

In section 2.5 and chapter 3, a series of dichotomies and dialectics were introduced and explained. The CED was shown to be related to a number of other pairs of concepts including "reason" - "passion" (§ 3.2.1), "civilisation" - "culture" (§ 3.4.1), and "man" -

"environment". Some of these pairs seem to be stages in a development illustrated, in figure 2.4 (§ 2.5.3), ultimately leading to the CED. In this development, the poles of the dichotomies or dialectics continuously shifted. "Reason" and "passion" were 'socialised' into "civilisation" and "culture" (§ 3.2.2), but with this change, connotations and theoretical foundations and implications also changed.

The culture - nature dichotomy or its geographical counterpart, the man - environment dialectic (MED), was the result of a different branch in the same process. However, in subsection 3.6.1 these two branches (the CED and the MED) were shown to be connected. This was illustrated in figure 3.1, which presented environment, culture and economy (in a triangle) as three separate but related conceptual pairs. It seems that the different dichotomies and dialectics dealt with in this book are part of a more complex *trichotomy* or *trialectic*.

As was shown in figure 3.1, this trialectic, however, cannot be simply represented as a triangle because it includes intermediate and/or combinatory concepts. The concepts of "man" or "society" for example include both culture and economy. Similarly, the concept of "passion" (see § 3.2.1) seems to be an intermediate between or combination of culturally induced preferences and natural drives. On this latter level of individual determinants of behaviour, the trichotomy returned in subsection 5.2.1 as reason, culture and nature.

figure 8.5: *the trialectic*

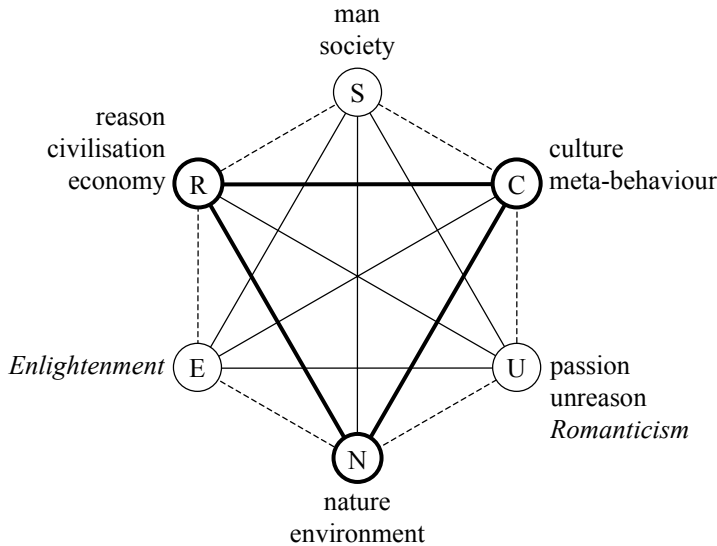


Figure 8.5 represents this reason - culture - nature trialectic or trichotomy in a hexagon shape. This hexagon is basically an expanded triangle to include intermediate or combinatory concepts. For example, S ("man", "society", etc.) is added as a combination of

and/or intermediate between R ("reason", "civilisation", "economy", etc.) and C ("culture", "meta-behaviour", etc.). Dashed lines connect these intermediates or combinations (S, U and E) to the corners of the triangle (C, N, R; elements of the trialectic) they are combinations of (or intermediates in-between).

There are nine solid lines in the figure representing conceptual pairs, dichotomies or dialectics. Four of these may be regarded *major* dialectics, the other five are *minor* dialectics or may even be missing in (contemporary) discourse altogether. The four *major* dialectics are RU, EU, CR, and SN. RU is the reason - passion dialectic (see § 3.2.1); EU represents the antagonism between Enlightenment and Romanticism or Counter-Enlightenment (see § 3.2.3); CR is the CED which originated from the introduction of S in RU and EU; and SN, finally, is the MED and the culture - nature dichotomy. (Note that in the culture - economy dialectic (CED) culture is represented by C and in the culture - nature dichotomy by S. As explained before (in § 2.5.3) these are different concepts of "culture" with an identical label.)

As mentioned, not all lines represent dialectics of the same (historical) importance. The *minor* dialectics are CN, RN, CE, SE and SU. Most dichotomies and theories on the social level which seem to be examples of RN or CN prove to be cases of SN upon closer inspection. As independent dialectics, CN and RN are relatively unimportant. However, they are part of the CNR trialectic (represented by bold lines in the figure) that determines individual human behaviour (see § 5.2.1). Similarly, CE is strongly related to UE. As dichotomies, SE and SU, finally, seem to be virtually non-existent. Rather, the introduction of S in E and U resulted in a Hegelian *Aufhebung* (see § 2.5.2) of SE and SU or S-EU into RC.

Figure 8.5 represents the structure of our perception and classification of (a part or aspect of) reality, but does not represent (that part or aspect of) reality itself. The corners of the figure do not represent ontological categories, but are mere conceptual classifications. Castree (2004) argued against theories that make this mistake: 'there are no such things as "economy" and "culture", ontologically speaking (whether separately or together). Rather, they are two powerful ideas' (p. 206).

While the trialectic (or parts thereof such as the CED and the MED) structures our thought and (scientific) theorising, its ontological relevance is limited. Figure 8.5 does not represent reality (or real-world categories). Hence, theories that are set in these terms may not represent real-world phenomena very well.

Social reality consists of behavioural events or actions and meta-behavioural entities. The latter include labels for, theories on, and patterns of behavioural events (see § 5.2.2). The concepts of the trialectic and the assumed relationships between them are examples of meta-behavioural entities. The concept of "meta-behaviour" is *more or less* synonymous to most interpretations of "culture" (see §§ 4.2-3), but there are no simple equivalents of the other categories of the trialectic. These categories are conceptually (hence, meta-behaviourally) bounded sets of physical, behavioural and meta-behavioural entities (see § 5.2.4).

8 / 6 / 2 / confirmation and falsification

For comparison, evaluation and testing, most theories of the CED were translated in terms of specific (typed) sets of behavioural and meta-behavioural entities (chapter 7). It seems that every possible conceptualisation of culture has somehow been related to every possible conceptualisation of economy. Just as the concepts of "culture" and "economy" are a bewildering and incomprehensible mess (see chapter 4), so is the CED.

A review of empirical tests and some new tests resulted in a small number of conclusions on the theories of the CED. Most tests, however, are based on insufficient data to reach an acceptable level of (dis-) confirmation of the relationships tested. For the direction of causality in assumed relations, there was generally even less evidence. (see also § 7.1.1)

For most of the theories of the CED, especially those relating specific cultural traits to entrepreneurship, no consistent evidence was found. There seems to be only one consistent relationship between a cultural value and an aspect of entrepreneurship: dissatisfaction leads to higher self-employment. The influence of wealth on culture, on the other hand, was empirically shown repeatedly. Multiple test results suggest that an increase of wealth produces an increase of (a) individualism; (b) post-materialism; (c) economic freedom; (d) civil and (e) political rights; and a decrease of (f) competitiveness.

While the first grand theory (see §§ 3.4.1 and 7.2) seems to be partly confirmed, there is very little empirical evidence for the second (see §§ 3.5.1 and 7.3). No consistent effects of cultural values on entrepreneurship were found, and there does not seem to be a consistent and significant effect of entrepreneurship on economic growth. It may be the case that the popular belief in the merits of entrepreneurship is just that: a belief, a myth caused by the position of the entrepreneur as the 'cultural hero' of our society (Hamilton 1957; see also § 7.5.3).

Another popular belief, at least in some economic circles, is that institutions affect economic growth. Empirical tests indeed show some relationships between institutions, such as democracy, the quality of the educational system, and economic freedom and economic growth, but the direction of the causality is generally unclear. In most cases, historical and statistical evidence suggested that the level of economic development of a society determines its institutions (wealth leads to economic freedom; a growing middle class leads to democratisation; and so forth) rather than the other way around. There may be effects of institutions on the economy, but it is very difficult to discern these from the – possibly stronger – effects in the opposite direction.

Interestingly, there were important differences between the findings on the regional scale and those on the (inter-) national scale. Firstly, on the regional scale a strong and positive effect of Protestantism on self-employment was found, which seems to confirm Weber's thesis (§§ 7.3.1 and 7.6.2). On the (inter-) national scale, however, no similar results were found (Kilby 1971; Lynn 1991). The difference may be caused by the fact that national cultural differences overpower religious and other types of difference, which results in the

disappearance of some cultural effects on the (inter-) national scale (Inglehart & Baker 2000). Hence, it may be advisable to study the CED or the effects of cultural values on behaviour in general on the regional rather than the (inter-) national scale.

Secondly, post-materialism seems to have negative effects on the (inter-) national scale and positive effects on the regional scale. Both relationships can be and were explained easily and are not necessarily contradictory. The fact, however, that not just this example, but any negative (or otherwise unexpected) test result for any theory of the CED can be explained without rejecting the theory implies that the theories of the CED are generally infalsifiable and therefore, unscientific (see § 8.3.1).

8 / 6 / 3 / science and meta

Falsifiability is not the only meta-theoretical problem of the CED. An analysis of the types of relationships in section 8.3 (T8.5 to T8.7; see table 8.1) showed that these are more often conceptual than causal. Hence, many of the theories introduced in chapter 7 should be studied by means of conceptual analysis rather than empirical research, although the latter may be a useful instrument in accomplishing the former (see § 8.4.2).

Social science is a study of language as much as it is a study of social reality. Language is important to social science as social reality, and both the perception thereof and social behaviour are strongly related to the concepts we have and use. Whether we choose to perform a certain action is (among others) dependent on whether we have a concept for that action. The trialectic itself would be irrelevant to most of Japanese thought, as there is no Japanese equivalent of "culture" (see § 2.1.1). Whether two 'things' are related is often more dependent on how these 'things' are conceptually bounded than on actual social reality.

By implication, research questions in social science should focus on the concepts used first. Statistical (or other types of empirical) analysis is useless if the researcher uses measures and concepts that are ambiguous or otherwise unclear. Social science should proceed by a three-step methodology:

- (1) conceptual analysis / (statistical) classification / ontology;
- (2) measurement / operationalisation;
- (3) correlation / empirical analysis.

The three types of basic theories or relationships of the CED distinguished in subsection 8.3.2 (T8.5 to T8.7) also are the basic theories (or building blocks thereof) of social science at large (see table 8.1). Theories in the social sciences can be translated into sets of relationships that are subtypes of T8.5 to T8.7. Two more basic theories (T8.8 and T8.9, representing the MED) were studied by classical geography, but seem to be a bit neglected in contemporary social science, especially since geography itself abandoned the MED in favour of the CED (see §§ 3.6 and 8.4.1).

table 8.1: *basic theories, relationships and disciplines*

theory	type of relationship	scientific discipline(s)
T8.5_R $\Delta\mathbb{M}_x \Rightarrow \Delta\mathbb{B}_y$	conceptual	sociology, economics, <i>post-classical</i> geography, etc.
T8.6_R $\Delta\mathbb{M}_x \Rightarrow \Delta\mathbb{M}_y$		
T8.7_R $\Delta\mathbb{B}_x \Rightarrow \Delta\mathbb{M}_y$	causal	
T8.8_R $\Delta(\Phi-\mathbb{B})_x \Rightarrow \Delta\mathbb{M}_y$		
T8.9_R $\Delta\mathbb{B}_x \Rightarrow \Delta(\Phi-\mathbb{B})_y \rightarrow$ <i>possibly both</i>		<i>classical</i> geography

Subsection 8.4.1 argued that geography should return to its roots and refocus on the MED, on T8.8 and T8.9. Subsection 8.5.1, however, pleaded for scientific anarchism and against disciplinary boundaries. This may seem contradictory. The point made in the latter section was that boundaries are epistemological mystifications and are, therefore, harmful to science. However, without some classification, and hence, some boundaries, science (and communication itself) are impossible (see § 8.5.3). Conceptual boundaries are necessary to organise our thought and perception. They may be mystifications, but they are necessary mystifications. Similarly, disciplinary boundaries may be necessary to organise science. Hence, disciplinary boundaries are a social rather than epistemological phenomenon; they are artefacts reflecting the origins and history of the different social sciences.

Scientific anarchism questions boundaries, classifications, concepts, authority, and the like. How then can geographers both choose to limit themselves to the study of the MED (T8.8 and T8.9) and be scientific anarchists at the same time? The answer is that they should *not* limit themselves in this (or any other) way (except by reason). Geography should not be *limited* to T8.8 and T8.9 (neither should the other social sciences be limited to T8.5 to T8.6); the MED should be the focus and starting point of geography, not its blinkers or end.

Sociology studies T8.5 to T8.7, but in the case of economics, things are a bit different. Mainstream or orthodox economics does not study T8.5 to T8.7, but mathematically models relationships of the form $\Delta\mathbb{B}_x \Rightarrow \Delta\mathbb{B}_y$, a combination of T8.7 and T8.5 ($\Delta\mathbb{B}_x \Rightarrow \Delta\mathbb{M}_z \Rightarrow \Delta\mathbb{B}_y$) in which \mathbb{M} is considered universal and therefore irrelevant. Orthodox economics is hardly a social science because it does not study social reality and shares more characteristics with political ideology and/or religion (see § 7.5.3) than with the other social sciences. Heterodox economics (including a.o. institutional, evolutionary, behavioural and experimental economics), on the other hand, has much to offer, and indeed continuously transgresses the disciplinary boundaries with geography and sociology.

If all of economics would study T8.5 to T8.7, how then would it be different from sociology? Considering the basic types of relationships or theories (see table 8.1) it seems that there are only two social sciences: sociology (focusing on T8.5 to T8.7) and geography (focusing on T8.8 and T8.9). The difference between them is merely a difference in *focus*, and hence, the boundary between them is extremely fuzzy. All other social sciences are applications of sociology, and sometimes geography, to specific problems, groups, environments, and so on but are not fundamentally different in the types of questions they ask or the types of theories they propose. However, as long as geography continues as a kind of spatial or regional sociology, social science consists only of sociology and a gap. It is up to geography to (re)fill that gap.

8 / 6 / 4 / coda

- 1.1 The concepts of "culture" and "economy" refer to ideas rather than to the world. They represent how we perceive and classify reality, not reality itself.
- 1.2 There are no discrete real-world counterparts of the concepts of "culture" and "economy".
- 1.3 There are sets of entities that could be labelled "culture" or "economy", but these sets are bounded subjectively, contingently and ambiguously.
- 1.4 Subjectively, contingently and ambiguously bounded parts of reality are irrelevant in objective real-world (social) processes and phenomena. Therefore, culture and economy are irrelevant in real-world processes and phenomena.
- 1.5 What is irrelevant to real-world (social) processes and phenomena is irrelevant to the study thereof: (social) science. Therefore, ⁽ⁿ⁾Culture⁽ⁿ⁾ and ⁽ⁿ⁾economy⁽ⁿ⁾ are irrelevant to (social) science.
- 1.6 As scientific concepts, "Culture" and "economy" are misconceptions.
- 2.1 Whether two phenomena are related is often more dependent on how these phenomena are conceptualised, operationalised and measured (or classified) than on real-world relationships.
- 2.2 Culture and economy *seem* to be related because "culture" and "economy" are related, not because culture and economy are related.

- 2.3 As "culture" and "economy" have no discrete real-world counterparts, there can be no real-world relationship between these.
- 2.4 Theories on the relationships between culture and economy are based on misconceptions rather than on real-world phenomena.
- 2.5 Theories on the relationships between culture and economy are misconceptions.
- 3.1 "Culture", "economy" and relationships between culture and economy are misconceptions.
- 3.2 Nothing useful can be said about misconceptions except that they are misconceptions.
- 3.3 'Wovon man nicht sprechen kann, darüber muß man schweigen' (Wittgenstein 1922, § 7).

CONSIDERATIONS AND IMPLICATIONS

APPENDIX

municipality scores on cultural dimensions

See § 6.2 for measurement procedure and further information.

#M = number of municipality (*gemeentenummer*).

#C = number of Corop-region (*Coropnummer*).

PMA = postmaterialism.

PMA-R = postmaterialism, corrected for degree of urbanisation, education and income.

PRC = Protestant conservatism.

IND = classical individualism.

IND-R = classical individualism, corrected for education and income.

EAC = egalitarian anti-conservatism.

DST = dissatisfaction.

	#M	#C	PMA	PMA-R	PRC	IND	IND-R	EAC	DST
Aa en Hunze	1680	7	-0,41	-0,18	-0,46	0,78	0,85	2,70	-0,94
Aalburg	738	34	-1,38	-0,43	2,78	-0,74	-0,20	-1,27	-0,34
Aalsmeer	358	23	-0,26	0,10	-0,16	0,91	0,15	0,11	0,79
Aalten	197	14	-0,45	-0,13	0,04	-0,48	0,44	-0,62	-1,79
Abcoude	305	17	0,15		-0,15	3,20		0,34	-0,56
Achtkarspelen	59	4	-0,37	-0,97	0,81	-1,81	-0,43	0,45	-0,69
Alblasserdam	482	30	-0,03	0,13	1,89	-1,16	-0,42	-0,03	0,27
Albrandswaard	613	29	-0,75	0,04	-0,12	1,49	0,38	0,45	1,90
Alkemade	483	25	-0,89	-0,19	-0,46	0,60	0,45	0,13	0,08
Alkmaar	361	19	2,24	0,60	-0,46	-0,36	0,00	0,89	0,54
Almelo	141	12	1,00	-0,30	0,19	-1,35	-0,19	0,55	0,41
Almere	34	40	1,16	0,50	-0,02	-0,05	0,02	1,88	2,92
Alphen aan den Rijn	484	28	0,82	0,47	0,20	0,16	-0,46	-0,03	0,56
Alphen-Chaam	1723	34	-0,87		-0,79	0,12		-1,45	-0,15
Ambt Montfort	1679	38	-0,29	0,26	-0,93	-0,49	-0,15	-1,45	0,45
Ameland	60	4	-0,48		-0,22	-0,20		0,96	-0,65
Amerongen	306	17	-0,33		1,40	1,00		-0,51	-0,28
Amersfoort	307	17	1,59	0,44	0,07	0,15	-0,57	0,27	-0,49
Amstelveen	362	23	1,35	0,40	0,15	2,47	0,70	0,20	-0,35
Amsterdam	363	23	4,58	-1,02	0,16	0,16	0,06	0,41	-0,04
Andijk	364	18	-0,15		0,39	-0,16		0,14	0,35
Angerlo	199	15	-0,42		-1,04	0,01		0,01	-0,59
Anna Paulowna	366	18	-0,85	-0,18	-0,55	-0,20	0,48	1,10	1,77
Apeldoorn	200	13	0,77	0,28	0,41	-0,06	-0,03	0,36	0,05
Appingedam	3	2	0,84	0,39	0,11	-1,34	-0,04	1,77	0,12
Arcen en Velden	885	37	-0,69		-1,12	-0,22		-1,42	-0,45
Arnhem	202	15	3,09	0,97	-0,31	-0,57	-0,26	0,59	-0,30
Assen	106	7	1,24	0,54	0,50	-0,39	0,17	1,45	-0,84

RETHINKING THE CULTURE - ECONOMY DIALECTIC

	#M	#C	PMA	PMA-R	PRC	IND	IND-R	EAC	DST
Asten	743	36	-0,74	-0,17	-0,89	-0,30	0,17	-1,15	-0,43
Baarle-Nassau	744	34	-0,34		-0,78	0,09		-1,56	0,07
Baarn	308	17	1,03	0,70	0,39	1,13	0,14	-0,20	0,11
Barendrecht	489	29	-0,68	-0,61	0,45	0,80	-0,16	0,36	1,05
Barneveld	203	13	-1,10	-0,24	2,75	-0,69	-0,46	-1,32	-0,53
Bathmen	144	11	-1,38		-0,62	1,81		2,00	-1,56
Bedum	5	3	-0,35	-0,10	0,65	-0,35	0,29	0,55	-2,02
Beek	888	39	0,08	0,23	-0,72	0,11	-0,01	-0,99	0,35
Beemster	370	23	-0,71		-0,61	1,67		1,98	0,06
Beesel	889	37	-0,43	-0,04	-0,85	-0,54	0,14	-0,85	1,06
Bellingwedde	7	1	0,21	-0,10	-0,42	-0,54	0,84	2,39	0,02
Bennebroek	372	21	-0,21		-0,02	3,30		-0,16	-0,77
Bergambacht	491	28	-1,07		1,45	0,06		0,62	-0,13
Bergeijk	1724	36	-1,00	-0,59	-0,77	-0,41	-0,38	-1,20	0,09
Bergen (L.)	893	37	-0,35	-0,48	-0,87	-0,05	-0,37	-0,99	0,37
Bergen (NH.)	373	19	0,53	1,02	-0,52	1,07	1,08	0,26	0,60
Bergen op Zoom	748	33	0,91	0,53	-0,26	-0,52	-0,12	-0,60	1,55
Bergh	207	14	-0,34	0,17	-1,08	-0,35	0,40	-0,83	-0,05
Bergschenhoek	492	29	-1,41	-1,26	-0,09	0,93	-0,39	0,56	1,27
Berkel en Rodenrijs	493	29	-0,82	-0,50	0,36	0,69	-0,37	-0,63	0,20
Bernheze	1721	35	-0,34	0,27	-1,42	-0,73	-0,41	-1,53	-1,08
Bernisse	568	29	-0,95	-0,15	0,01	0,61	0,18	1,01	1,60
Best	753	36	-0,07	-0,21	-0,68	0,09	-0,30	-0,78	0,21
Beuningen	209	15	0,31	0,53	-1,03	-0,05	0,00	0,03	-0,14
Beverwijk	375	20	1,46	1,16	-0,45	-0,69	-0,25	0,60	1,46
Binnenmaas	585	29	-0,69	-0,02	0,65	0,75	-0,03	0,44	0,95
Bladel	1728	36	-0,84	-0,13	-1,13	-0,71	-0,36	-0,90	0,35
Blaricum	376	24	0,27		0,18	3,82		-0,17	-0,17
Bleiswijk	495	29	-1,42	-0,84	0,31	1,04	0,16	-0,48	0,73
Bloemendaal	377	21	0,31	-0,49	0,18	4,67	0,48	-0,28	-0,83
Boarnsterhim	55	4	-0,04	-0,14	-0,63	0,09	0,67	2,68	-1,15
Bodegraven	497	28	-0,70	-0,37	0,82	-0,09	-0,63	-0,60	-0,07
Boekel	755	35	-1,12	-0,52	-1,23	-0,72	0,08	-1,77	-0,93
Bolsward	64	5	0,73		-0,32	-1,06		-0,26	-0,58
Borculo	211	14	-0,78		-0,51	0,54		1,74	-1,04
Borger-Odoorn	1681	8	-0,38	-0,29	-0,19	-0,20	0,67	2,04	-0,49
Borne	147	12	-0,35	-0,18	-0,80	-0,04	0,11	-0,77	-1,15
Borsele	654	32	-0,30	0,51	1,15	-0,64	-0,16	-0,67	-0,38
Boskoop	499	28	-0,47	-0,08	0,56	0,23	-0,34	-0,17	0,15
Boxmeer	756	35	0,29	0,69	-1,06	-0,22	0,04	-1,14	-1,14
Boxtel	757	35	0,85	0,71	-0,94	-0,65	-0,56	-1,11	-0,36
Breda	758	33	1,71	0,37	-0,68	-0,03	-0,28	-0,27	0,43
Breukelen	311	17	0,15	0,61	0,39	1,30	0,23	-0,35	-0,44
Brielle	501	29	-0,23	0,45	-0,22	1,05	0,51	1,13	1,71
Brummen	213	14	-0,32	0,09	-0,48	0,02	0,16	1,39	-0,39
Brunssum	899	39	1,69	0,72	-0,38	-1,27	-0,02	-0,64	1,16
Bunnik	312	17	0,30	-0,06	-0,31	2,19	0,23	-0,40	-1,55
Bunschoten	313	17	-1,37	-0,51	3,40	-1,70	-1,37	-1,65	-1,24
Buren	214	16	-0,88	-0,55	0,43	0,32	0,24	1,44	0,73
Bussum	381	24	1,44	-0,43	0,33	2,42	0,88	-0,48	-0,39
Capelle aan den IJssel	502	29	1,06	-0,75	1,00	0,24	-0,15	0,21	2,35
Castricum	383	20	0,21	0,12	-0,72	1,32	-0,06	0,28	-0,37

APPENDIX

	#M	#C	PMA	PMA-R	PRC	IND	IND-R	EAC	DST
Coevorden	109	8	-0,36	-0,11	-0,21	-0,54	0,36	1,81	-0,65
Cranendonck	1706	36	-0,60	-0,44	-0,92	-0,48	-0,24	-0,91	0,70
Cromstrijen	611	29	-0,66	-0,15	0,77	0,32	-0,17	0,47	0,71
Cuijk	1684	35	0,63	0,46	-0,85	-0,60	-0,03	0,31	-0,05
Culemborg	216	16	1,13	0,80	-0,09	-0,04	-0,27	0,22	0,27
Dalfsen	148	10	-1,40	-0,88	0,44	-0,32	0,05	-0,63	-1,92
Dantumadeel	65	4	-0,52	-0,97	1,15	-1,17	0,29	-0,03	-1,07
De Bilt	310	17	1,01	0,38	0,35	2,51	0,52	-0,36	-0,97
De Lier	552	27	-1,40	-0,62	0,27	-0,51	-0,77	-1,02	0,62
De Marne	1663	3	0,66	0,27	0,43	-0,84	0,35	1,27	-1,07
De Ronde Venen	736	17	-0,36	-0,08	0,11	0,75	-0,35	-0,14	0,70
De Wolden	1690	9	-1,09	-0,43	0,06	0,39	0,95	1,35	-0,78
Delft	503	27	2,56	0,03	0,10	0,72	0,39	-0,12	-0,58
Delfzijl	10	2	0,64	0,32	0,29	-1,21	-0,07	1,77	0,48
Den Helder	400	18	1,33	1,17	0,58	-0,44	0,58	0,75	2,86
Deurne	762	36	-0,43	0,00	-0,91	-0,71	-0,19	-1,34	0,11
Deventer	150	11	1,64	0,68	-0,50	-0,70	-0,32	1,28	-0,67
Didam	218	15	-0,50	0,33	-0,87	-0,46	0,18	-1,10	-0,06
Diemen	384	23	1,97	0,77	-0,23	1,40	0,34	1,12	1,56
Dinkelland	1774	12	-1,72	-1,13	-1,01	-0,20	0,19	-2,02	-1,77
Dinxperlo	219	14	-0,42		-0,48	-0,83		-0,14	-0,79
Dirksland	504	29	-0,92		2,51	-0,72		-0,30	0,39
Doesburg	221	15	1,57	1,25	-0,68	-0,77	0,00	0,70	-0,44
Doetinchem	222	14	0,98	0,75	-0,34	-0,39	0,02	0,59	-0,39
Dongen	766	34	0,52	0,45	-0,61	-0,95	-0,74	-0,80	-0,13
Dongeradeel	58	4	-0,10	-0,79	0,63	-1,07	0,29	-0,35	-1,39
Doorn	315	17	0,73	0,58	0,96	1,55	-0,42	-0,36	-0,83
Dordrecht	505	30	1,62	0,08	0,74	-0,74	-0,31	0,42	1,59
Drechterland	498	18	-0,95	0,03	-0,91	0,04	0,31	-0,06	0,67
Driebergen-Rijsenburg	316	17	1,01	0,13	0,51	2,00	0,46	-0,42	-1,22
Drimmelen	1719	33	-0,52	0,29	-1,00	-0,26	-0,20	-0,54	0,66
Dronten	303	40	-0,30	0,22	0,62	-0,19	0,29	0,24	0,43
Druten	225	15	-0,17	0,26	-0,96	-0,49	-0,07	-0,09	0,00
Duiven	226	15	-0,11	0,22	-0,73	0,14	0,20	0,22	0,19
Echt-Susteren	1711	38	0,05	-0,06	-0,96	-0,40	-0,04	-0,93	0,24
Edam-Volendam	385	23	-1,00	-0,55	-0,49	-0,78	-0,89	-1,21	1,79
Ede	228	13	0,06	0,00	1,96	-0,48	-0,50	-0,82	-0,34
Eemnes	317	17	0,12		-0,23	1,28		0,16	0,23
Eemsmond	1651	3	0,28	-0,09	0,45	-0,98	0,69	1,30	-1,04
Eersel	770	36	-0,90	-0,13	-1,00	0,16	-0,06	-1,19	-0,31
Eibergen	229	14	-0,62	-0,28	-0,87	-0,21	0,57	-0,03	-1,70
Eijsden	905	39	-0,48	-0,39	-0,74	0,03	-0,52	-1,13	-0,55
Eindhoven	772	36	2,32	0,37	-0,40	-0,57	-0,63	-0,25	0,49
Elburg	230	13	-0,99	-0,19	2,38	-0,96	-0,25	-1,17	-0,95
Emmen	114	8	0,65	0,69	0,02	-1,44	-0,22	1,22	-0,14
Enkhuizen	388	18	1,23	1,24	-0,18	-0,33	0,54	0,86	0,93
Enschede	153	12	1,76	-0,22	0,08	-1,03	-0,05	0,91	-0,14
Epe	232	13	-0,31	0,22	0,53	-0,16	0,02	0,28	-0,28
Ermelo	233	13	-0,17	0,28	1,48	-0,09	-0,42	-1,23	-0,82
Etten-Leur	777	33	0,40	0,26	-0,66	-0,59	-0,44	-0,40	1,21
Ferwerderadiel	1722	4	-0,33		0,23	-0,79		0,33	-1,09
Franekeradeel	70	4	-0,08	-0,99	0,27	-0,65	0,62	1,04	-0,85

RETHINKING THE CULTURE - ECONOMY DIALECTIC

	#M	#C	PMA	PMA-R	PRC	IND	IND-R	EAC	DST
Gaasterlân-Sleat	653	5	-0,88	-0,73	0,08	0,07	0,94	-0,11	-1,00
Geertruidenberg	779	33	-0,06	0,69	-1,19	-0,76	-0,45	-0,07	1,34
Geldermalsen	236	16	-0,73	-0,15	0,89	0,06	-0,14	0,41	0,46
Geldrop	781	36	1,12	0,60	-0,73	-0,48	-0,56	-0,90	0,62
Gemert-Bakel	1652	36	-0,39	-0,26	-1,12	-0,78	0,08	-1,09	-0,09
Gendringen	237	14	-0,53	-0,43	-0,98	-0,98	-0,13	-0,75	-0,41
Gennep	907	37	0,53	1,04	-0,77	0,46	0,67	-0,92	0,25
Giessenlanden	689	30	-1,33	-0,28	1,29	-0,25	-0,42	0,53	-0,41
Gilze en Rijen	784	34	-0,08	0,21	-0,69	-0,71	-0,58	-0,49	0,48
Goedereede	511	29	-1,07	0,02	2,80	-1,05	-0,78	-0,68	-0,01
Goes	664	32	0,96	0,46	0,63	-0,40	-0,04	0,10	-0,55
Goirle	785	34	0,74	0,43	-0,62	-0,47	-0,94	-0,19	0,11
Gorinchem	512	30	0,80	0,19	0,58	-0,46	-0,13	0,73	0,80
Gorsseel	239	14	-0,56	-0,06	-0,43	1,85	1,10	1,04	-1,52
Gouda	513	28	1,13	-1,12	0,45	0,14	-0,33	0,23	0,62
Graafstroom	693	30	-1,68	-0,59	2,91	-0,60	-1,00	-1,26	-1,32
Graft-De Rijp	365	23	-0,42		-0,97	0,84		1,16	0,17
Grave	786	35	0,47	0,62	-1,02	-0,15	0,00	-0,47	-0,09
Groenlo	240	14	-0,18		-1,11	-0,94		-0,66	-1,02
Groesbeek	241	15	0,53	0,31	-1,14	-0,46	-0,33	-0,34	-0,85
Groningen	14	3	3,84	0,37	0,07	-0,25	0,22	1,44	-2,17
Grootegast	15	3	-0,74	-0,76	0,73	-0,98	0,19	0,27	-0,81
Gulpen-Wittem	1729	39	-0,28	0,33	-0,86	0,04	0,13	-1,79	-0,87
Haaksbergen	158	12	-0,80	-0,29	-0,93	-0,10	0,18	-0,57	-0,74
Haaren	788	35	-0,75	-0,21	-0,90	0,01	-0,19	-1,47	-0,49
Haarlem	392	21	2,49	0,05	-0,24	0,54	0,26	0,73	-0,16
Haarlemmerliede c.a.	393	21	0,04		-0,70	1,87		0,42	0,59
Haarlemmermeer	394	23	0,14	0,46	0,01	0,88	0,15	0,60	1,38
Haelen	914	38	-0,31	-0,09	-0,95	0,02	-0,06	-1,36	0,59
Halderberge	1655	33	-0,27	0,41	-0,68	-0,48	-0,30	-0,82	1,18
Hardenberg	160	10	-1,01	-0,24	1,05	-1,02	-0,05	-0,18	-1,31
Harderwijk	243	13	0,20	0,17	1,05	-0,50	-0,16	-0,43	0,05
Hardinxveld-Giessendam	523	30	-1,29	-0,55	3,05	-0,99	-0,52	-0,68	-0,78
Haren	17	3	0,70	-0,11	0,30	2,52	0,66	0,77	-2,11
Harenkarspel	395	18	-0,77	-0,22	-1,08	0,06	0,51	0,87	0,90
Harlingen	72	4	1,22	0,61	0,06	-0,77	0,62	1,21	0,52
Hattem	244	13	-0,79	-0,40	1,11	-0,53	-0,64	0,40	-1,86
Heel	1937	38	-0,55		-1,33	-0,05		-1,18	0,36
Heemskerk	396	20	0,86	0,78	-0,32	0,05	0,11	0,01	1,01
Heemstede	397	21	0,75	-0,36	0,10	3,64	1,12	-0,32	-0,75
Heerde	246	13	-0,95	0,07	1,18	-0,84	-0,59	-0,01	-1,18
Heerenveen	74	6	0,76	0,28	-0,20	-0,33	0,25	1,72	-0,46
Heerhugowaard	398	19	0,22	0,18	-0,57	-0,40	-0,12	0,84	1,57
Heerlen	917	39	2,82	1,29	-0,50	-1,77	-0,83	-1,08	1,26
Heeze-Leende	1658	36	-0,84	-0,34	-0,90	0,63	-0,39	-1,15	-0,29
Heiloo	399	19	0,09	0,17	-0,47	1,61	0,55	0,44	-0,57
Helden	918	37	-0,88	-0,31	-1,02	-0,66	0,01	-1,29	0,02
Hellendoorn	163	12	-0,89	-0,17	0,05	-0,59	0,09	-0,91	-1,44
Hellevoetsluis	530	29	0,51	0,48	0,08	-0,20	0,08	1,26	3,15
Helmond	794	36	1,19	-0,17	-0,62	-1,40	-0,71	-0,28	1,76
Hendrik-Ido-Ambacht	531	30	-0,72	-0,93	1,67	0,08	-0,30	-0,20	0,66
Hengelo (Gld.)	248	14	-0,70		-0,70	0,11		-0,03	-1,02

APPENDIX

	#M	#C	PMA	PMA-R	PRC	IND	IND-R	EAC	DST
Hengelo (O.)	164	12	0,87	0,04	-0,34	-0,53	-0,22	0,00	-0,61
het Bildt	63	4	0,08	-0,60	-0,18	-0,82	0,55	1,13	-0,62
Heumen	252	15	0,37	-0,06	-0,82	1,03	0,08	-0,15	-1,04
Heusden	797	35	-0,14	0,09	-0,89	-0,52	-0,38	-0,61	0,60
Heythuysen	920	38	-0,36	-0,40	-0,99	-0,17	-0,03	-1,57	-0,05
Hillegom	534	25	0,21	0,25	-0,37	0,52	0,28	-0,25	0,94
Hilvarenbeek	798	34	-0,83	-0,13	-1,21	-0,09	-0,05	-0,94	-0,91
Hilversum	402	24	1,71	0,47	0,00	1,11	0,40	0,50	-0,05
Hof van Twente	1735	12	-0,84	-0,72	-0,51	0,36	0,42	0,12	-1,07
Hoogeveen	118	9	0,05	0,14	0,83	-1,42	-0,32	0,31	-0,25
Hoogezand-Sappemeer	18	3	1,28	0,53	-0,01	-1,23	0,08	1,96	0,20
Hoorn	405	18	1,39	0,43	-0,51	-0,25	0,00	1,21	1,17
Horst aan de Maas	1507	37	-0,42	0,34	-1,34	-0,54	-0,25	-1,46	-0,62
Houten	321	17	0,25	-0,03	0,21	1,18	0,13	0,22	-0,44
Huizen	406	24	0,67	-0,39	0,66	1,20	0,14	-0,21	0,39
Hulst	677	31	0,08	0,15	-0,82	-0,79	-0,50	-0,69	0,58
Hummelo en Keppel	256	14	-0,67		-0,61	1,49		1,33	-1,15
Hunsel	925	38	-1,07		-1,14	-0,42		-1,68	0,01
IJsselstein	353	17	0,42	0,34	-0,54	0,10	-0,63	0,75	1,03
Jacobsouwde	645	28	-0,97	-0,09	-0,36	0,81	0,31	-0,20	0,29
Kampen	166	10	0,02	-0,64	1,81	-1,35	-0,36	-0,33	-1,30
Kapelle	678	32	-0,78	0,03	1,26	-0,25	0,04	-0,04	-0,65
Katwijk	537	25	-0,58	-0,82	2,36	-1,27	-0,81	-1,56	0,18
Kerkrade	928	39	1,79	0,88	-0,18	-1,48	-0,52	-0,58	1,56
Kessel	929	37	-1,15		-1,16	-0,95		-1,17	0,27
Kesteren	258	16	-1,21	-0,78	2,29	-0,91	-0,43	-0,01	-0,50
Kollumerland c.a.	79	4	-0,44	-1,43	0,72	-1,30	0,24	-0,02	-0,73
Korendijk	588	29	-0,92	-0,51	1,68	0,21	0,11	-0,02	0,56
Krimpen aan den IJssel	542	29	-0,35	-0,92	1,59	0,14	-0,26	-0,12	0,78
Laarbeek	1659	36	-0,51	-0,03	-1,04	-0,77	-0,33	-1,08	-0,01
Landerd	1685	35	-0,50	0,14	-1,42	-0,38	0,11	-1,20	-0,86
Landgraaf	882	39	1,36	0,99	-0,48	-1,25	-0,41	-0,28	0,75
Landsmeer	415	23	0,43	0,86	-0,28	1,69	0,73	1,57	1,35
Langedijk	416	19	-0,61	-0,50	-0,69	0,23	0,10	1,34	1,38
Laren	417	24	0,56	0,28	0,15	3,69	0,57	-0,49	-0,04
Leek	22	3	0,22	-0,06	0,39	-0,07	0,39	1,15	-0,99
Leerdam	545	30	-0,01	0,72	1,52	-1,03	-0,40	-0,26	0,75
Leersum	326	17	0,27		0,98	0,85		0,16	0,07
Leeuwarden	80	4	2,68	0,58	-0,11	-1,02	-0,23	1,37	-0,79
Leeuwarderadeel	81	4	-0,61	-0,21	-0,26	-0,34	0,16	1,97	-1,15
Leiden	546	25	2,94	-0,28	0,02	1,02	0,39	0,54	-1,15
Leiderdorp	547	25	0,60	-0,33	0,20	1,27	-0,22	0,21	0,09
Leidschendam-Voorburg	1916	26	1,11	-0,27	-0,13	1,53	0,26	-0,25	0,58
Lelystad	995	40	1,73	1,24	0,41	-1,02	-0,18	1,55	2,53
Lemsterland	82	5	-0,27	-0,36	-0,16	-0,45	0,45	1,02	0,18
Leusden	327	17	0,16	0,19	0,32	1,35	-0,18	0,01	-0,60
Lichtenvoorde	260	14	-1,01	-0,22	-1,22	0,05	0,70	-0,85	-1,12
Liemeer	1673	28	-1,14		-0,15	0,43		-1,03	0,58
Liesveld	694	30	-1,39	-0,45	1,94	-0,75	-0,67	-0,21	-0,58
Lingewaal	733	16	-0,91	-0,14	0,89	-0,29	-0,11	0,52	0,28
Lingewaard	1705	15	-0,32	-0,20	-1,16	-0,01	0,27	-0,10	-0,03
Lisse	553	25	-0,30	0,09	0,27	0,55	0,30	-0,72	0,57

RETHINKING THE CULTURE - ECONOMY DIALECTIC

	#M	#C	PMA	PMA-R	PRC	IND	IND-R	EAC	DST
Lith	808	35	-0,72		-1,14	-0,87		-1,67	-0,45
Littenseradiel	140	4	-0,46	-0,59	-0,51	-0,21	0,21	1,48	-1,47
Lochem	262	14	-0,15	0,07	-0,25	0,92	0,83	1,02	-1,30
Loenen	329	17	0,16		0,19	2,85		-0,17	-0,13
Loon op Zand	809	34	-0,44	-0,18	-0,59	-0,16	0,06	-0,15	0,23
Lopik	331	17	-1,32	-0,01	0,95	-0,36	-0,22	-0,73	0,26
Loppersum	24	2	0,15	-0,42	0,47	-0,41	0,39	0,97	-1,64
Losser	168	12	-0,84	-0,36	-0,93	-0,59	0,11	-0,69	-0,37
Maarn	332	17	-0,52		0,15	2,46		0,87	-0,84
Maarssen	333	17	0,64	0,29	-0,23	0,80	-0,09	0,46	0,90
Maasbracht	933	38	-0,04	0,07	-0,87	-0,36	0,06	-1,17	0,51
Maasbree	934	37	-1,18	-0,63	-0,99	-0,45	-0,24	-1,09	0,13
Maasdonk	1671	35	-0,89	0,11	-1,20	-1,05	-0,57	-1,79	-0,34
Maasdriel	263	16	-0,72	-0,29	-0,44	-0,11	0,18	-0,46	0,74
Maasland	555	27	-1,72		-0,03	0,72		-0,77	-0,50
Maassluis	556	29	0,44	-0,35	0,84	-0,52	-0,52	-0,01	2,14
Maastricht	935	39	2,47	0,27	-0,35	-0,36	-0,17	-0,80	0,04
Margraten	936	39	-0,56	-0,16	-0,73	0,57	0,11	-1,86	-0,94
Marum	25	3	-0,69	0,05	0,00	-0,31	0,86	1,60	0,01
Medemblik	420	18	0,57		-0,43	-0,54		0,49	2,45
Meerlo-Wanssum	993	37	-0,85		-1,28	-0,45		-1,43	-0,67
Meerssen	938	39	-0,10	0,03	-0,84	0,45	0,14	-1,38	-0,01
Meijel	941	37	-1,44		-1,30	-0,54		-1,46	0,11
Menaldumadeel	83	4	-0,59	-0,58	-0,32	-0,29	0,34	1,50	-1,18
Menterwolde	1987	1	0,48	0,08	-0,52	-1,32	0,10	2,77	0,00
Meppel	119	9	0,48	0,19	0,37	-0,48	0,22	1,16	-0,42
Middelburg	687	32	1,45	0,81	1,13	-0,70	-0,29	0,16	-0,43
Middelharnis	559	29	-0,49	0,20	2,03	-0,55	0,13	-0,20	0,14
Midden-Drenthe	1731	7	-0,47	-0,27	-0,03	-0,17	0,48	1,67	-0,97
Mierlo	814	36	0,03	-0,27	-0,86	0,03	-0,23	-0,95	-0,01
Mill en Sint Hubert	815	35	-0,78	-0,36	-1,26	-0,72	0,18	-1,59	-0,67
Millingen aan de Rijn	265	15	0,49		-1,28	-0,60		-0,14	-0,09
Moerdijk	1709	33	0,15	0,77	-0,59	-0,73	-0,62	-0,34	0,62
Monster	562	27	-0,83	-1,68	0,33	0,47	0,62	-1,07	1,30
Montfoort	335	17	-0,73	0,15	0,27	0,38	-0,30	0,03	0,29
Mook en Middelaar	944	37	0,52		-1,23	1,34		-0,76	-1,07
Moordrecht	563	28	-0,21		0,37	0,43		-0,05	0,58
Muiden	424	24	0,63		-0,30	3,17		0,64	-0,11
Naaldwijk	565	27	-1,38	-0,91	-0,04	0,26	0,15	-0,63	1,17
Naarden	425	24	0,32	-0,12	0,08	3,44	1,06	0,22	-0,57
Nederlek	643	29	-0,92	-0,14	0,70	0,23	0,55	1,23	0,71
Nederweert	946	38	-1,24	-0,33	-0,98	-0,44	0,11	-1,29	0,10
Neede	266	14	-0,68	-0,50	-0,57	-0,23	0,42	0,63	-0,94
Neerijnen	304	16	-1,01	-0,16	0,77	-0,02	0,27	0,86	-0,05
Niedorp	412	18	-0,79	-0,11	-1,12	0,14	0,35	2,06	1,35
Nieuwegein	356	17	1,10	0,63	0,30	-1,30	-1,72	0,19	1,57
Nieuwerkerk aan den IJssel	567	29	-0,17	-0,59	0,95	0,40	-0,88	0,28	1,41
Nieuwkoop	569	28	-0,31	0,36	-0,06	0,49	-0,12	-0,34	0,49
Nieuw-Lekkerland	571	30	-1,21		2,91	-0,31		-0,20	-0,67
Nijefurd	104	5	-0,24	-0,77	-0,16	-0,08	1,32	0,50	-1,00
Nijkerk	267	13	-0,68	-0,36	1,23	-0,34	-0,44	-0,77	-0,27
Nijmegen	268	15	4,08	0,90	-0,76	0,02	-0,08	-0,51	-1,97

APPENDIX

	#M	#C	PMA	PMA-R	PRC	IND	IND-R	EAC	DST
Noord-Beveland	1695	32	-0,20		0,36	-0,22		0,82	0,24
Noordenveld	1699	7	0,03	-0,01	-0,04	0,72	0,70	1,87	-0,87
Noorder-Koggenland	529	18	-0,32	0,03	-0,08	0,40	0,40	1,80	1,09
Noordoostpolder	171	40	-0,31	-0,22	0,70	-0,69	0,23	0,07	-0,36
Noordwijk	575	25	0,40	0,57	0,06	1,01	0,49	-0,19	0,62
Noordwijkerhout	576	25	-0,27	0,12	-0,43	1,01	0,79	-0,72	0,80
Nuenen c.a.	820	36	-0,20	-0,25	-0,56	1,34	-0,02	-0,53	-0,15
Nunspeet	302	13	-0,89	-0,34	3,21	-0,57	-0,22	-1,59	-0,68
Nuth	951	39	-0,51	-0,20	-1,04	-0,45	-0,54	-0,86	0,90
Obdam	429	18	-1,21		-1,17	0,08		0,20	0,35
Oegstgeest	579	25	0,53	-0,71	0,22	2,99	0,38	0,15	-1,07
Oirschot	823	36	-1,01	-0,26	-1,09	-0,18	0,01	-1,31	-0,39
Oisterwijk	824	34	-0,03	0,01	-0,84	0,43	0,18	-0,44	-0,29
Oldebroek	269	13	-1,24	-0,13	3,08	-1,31	-0,68	-1,38	-1,00
Oldenzaal	173	12	0,09	-0,75	-0,84	-0,22	0,04	-0,75	-0,96
Olst-Wijhe	1773	11	-0,56	-0,33	-0,68	0,08	0,51	0,93	-1,33
Ommen	175	10	-1,00	-0,39	0,89	-0,03	0,61	-0,62	-1,89
Onderbanken	881	39	0,18		-0,98	-0,58		-0,91	0,63
Oosterhout	826	33	0,51	0,31	-0,55	-0,29	-0,32	-0,29	1,03
Oostflakkee	580	29	-0,48	-0,20	0,95	-1,00	-0,45	0,22	0,93
Ooststellingwerf	85	6	0,26	-0,26	0,08	-0,77	0,27	1,73	-0,42
Oostzaan	431	23	0,10		-0,48	1,49		2,18	1,31
Opmeer	432	18	-1,05	0,09	-0,98	0,12	0,48	0,21	0,91
Opsterland	86	6	-0,06	-0,27	0,09	-0,30	0,56	1,46	-1,37
Oss	828	35	1,84	1,46	-1,25	-1,37	-1,11	-1,35	-0,67
Oud-Beijerland	584	29	-0,31	-0,32	0,99	0,21	-0,20	-0,09	0,82
Ouder-Amstel	437	23	0,81	0,26	-0,35	2,21	0,28	0,78	0,05
Ouderkerk	644	29	-1,12		2,18	-0,42		0,11	0,12
Oudewater	589	17	-0,82	-0,32	-0,11	0,40	-0,02	-0,73	0,02
Overbetuwe	1734	15	0,07	-0,19	-0,26	0,31	0,12	-0,09	-0,47
Papendrecht	590	30	-0,16	-0,35	0,93	-0,29	-0,52	0,51	1,22
Pekela	765	1	1,14	0,58	-0,09	-2,13	-0,27	2,09	-0,16
Pijnacker-Nootdorp	1926	26	-0,98	-0,71	-0,33	1,14	-0,16	0,01	0,44
Purmerend	439	23	1,01	0,13	-0,34	0,06	0,33	1,61	2,43
Putten	273	13	-0,91	-0,02	2,13	-0,62	-0,53	-1,25	-0,35
Raalte	177	11	-0,89	-0,60	-0,90	-0,33	0,17	-0,83	-1,49
Reeuwijk	595	28	-1,03	-0,30	1,19	0,98	-0,56	-0,57	0,32
Reiderland	1661	1	1,22		-0,74	-1,69		2,64	0,28
Reimerswaal	703	32	-0,63	-0,10	3,11	-1,60	-0,83	-0,73	0,62
Renkum	274	15	1,27	1,07	0,04	1,52	0,51	0,13	-1,07
Renswoude	339	17	-1,20		2,02	-0,53		-1,26	-0,03
Reusel-De Mierden	1667	36	-1,43	-0,37	-0,97	-0,96	-0,33	-1,33	0,04
Rheden	275	15	1,11	0,49	-0,07	0,50	0,29	0,68	-0,75
Rhenen	340	17	-0,04	0,10	1,42	0,00	-0,15	-0,36	-0,06
Ridderkerk	597	29	-0,10	-0,31	1,30	-0,38	-0,21	0,37	1,49
Rijnsburg	602	25	-1,12	-1,24	1,77	-0,92	-0,72	-1,26	-0,06
Rijnwaarden	196	15	-0,10	0,60	-1,14	-0,88	0,23	-0,33	0,50
Rijnwoude	1672	28	-0,78	-0,06	0,67	0,19	-0,39	0,11	0,07
Rijssen	178	12	-1,40	-0,90	2,89	-0,83	-0,18	-0,89	-1,54
Rijswijk	603	26	1,11	-0,58	0,02	0,98	-0,04	0,01	1,80
Roerdalen	1669	38	0,09	0,71	-0,80	-0,54	-0,36	-1,40	0,70
Roermond	957	38	1,63	0,26	-0,29	-0,50	-0,01	-0,63	1,69

RETHINKING THE CULTURE - ECONOMY DIALECTIC

	#M	#C	PMA	PMA-R	PRC	IND	IND-R	EAC	DST
Roggel en Neer	1670	38	-0,67		-1,04	-0,50		-1,63	-0,49
Roosendaal	1674	33	0,55	0,33	-0,59	-0,73	-0,45	-0,49	1,51
Rotterdam	599	29	3,04	-1,31	0,99	-0,94	-0,19	-0,01	2,70
Rozenburg	600	29	0,57	0,93	0,59	-0,86	-0,55	0,47	3,53
Rozendaal	277	15	-0,84		-0,14	4,36		1,39	-1,31
Rucphen	840	33	-0,68	0,14	-0,74	-1,25	-0,50	-1,15	2,77
Ruurlo	278	14	-1,20		-0,70	0,74		0,93	-1,03
Sassenheim	604	25	0,11	0,13	-0,04	0,07	-0,56	-0,63	0,54
Schagen	441	18	1,11	0,72	-0,05	-0,21	-0,12	1,28	1,20
Scheemda	39	1	-0,03	0,12	-0,33	-1,11	-0,01	1,91	-1,03
Schermer	458	19	-0,46		-0,48	0,39		1,10	-0,18
Scherpenzeel	279	13	-0,82		2,06	-0,49		-0,46	-0,17
Schiedam	606	29	1,29	-0,86	-0,16	0,32	1,00	0,26	2,03
Schiermonnikoog	88	4	1,44		0,60	0,87		0,92	-1,49
Schijndel	844	35	0,62	1,08	-1,30	-1,29	-1,03	-0,98	-0,03
Schinnen	962	39	-0,15	-0,30	-1,11	0,03	-0,22	-1,25	-0,47
Schipluiden	607	27	-0,81	-0,39	-0,11	-0,51	-1,28	-0,85	-0,62
Schoonhoven	608	28	0,47	0,39	0,43	0,53	0,63	0,30	-0,15
Schouwen-Duiveland	1676	32	-0,32	0,10	0,81	0,55	0,80	0,48	0,32
Sevenum	964	37	-0,80		-1,36	-0,26		-1,32	-1,51
's-Gravendeel	517	30	-0,55		0,57	-0,46		0,91	0,35
's-Gravenhage	518	26	2,63	-1,83	0,33	1,02	1,03	-0,03	1,57
's-Gravenzande	519	27	-1,13	-0,86	0,85	0,05	-0,12	-0,43	1,30
's-Hertogenbosch	796	35	1,50	0,12	-0,96	-0,16	-0,45	-0,37	0,07
Simpelveld	965	39	-0,30	0,10	-0,64	-0,87	-0,38	-0,55	0,77
Sint Anthonis	1702	35	-0,99	-0,39	-1,17	-0,32	0,32	-1,78	-1,54
Sint-Michielsgestel	845	35	-0,39	0,06	-1,02	-0,20	-0,42	-0,85	-0,26
Sint-Oedenrode	846	35	-0,40	-0,04	-1,06	-0,64	-0,22	-1,28	-0,41
Sittard-Geleen	1883	39	1,07	0,10	-0,84	-0,73	-0,30	-0,69	1,11
Skarsterlân	51	6	-0,62	-0,46	-0,30	-0,37	0,27	1,01	-0,93
Sliedrecht	610	30	-0,06	0,20	2,04	-1,29	-0,68	-0,12	0,59
Slochteren	40	3	-0,18	0,39	-0,02	0,03	0,66	2,10	-0,70
Sluis	1714	31	0,27	0,75	-0,15	-0,55	0,15	0,61	0,74
Smallingerland	90	6	0,85	-0,02	0,64	-1,07	-0,23	0,80	-0,94
Sneek	91	5	1,22	0,04	-0,05	-0,70	0,24	1,06	-0,07
Soest	342	17	0,61	0,40	0,49	1,10	0,19	-0,28	0,55
Someren	847	36	-1,03	-0,50	-0,86	-0,49	0,17	-1,53	0,41
Son en Breugel	848	36	-0,22	-0,49	-0,41	0,72	-0,64	-0,39	0,24
Spijkenisse	612	29	0,89	0,28	0,43	-0,63	-0,17	0,79	3,58
Stadskanaal	37	1	0,29	0,03	0,50	-1,41	0,13	0,63	-0,11
Staphorst	180	10	-1,89	-0,76	4,23	-1,09	-0,37	-1,23	-1,68
Stede Broec	532	18	-0,09	-0,06	-0,50	-0,48	0,15	0,36	1,76
Steenbergen	851	33	-0,20	0,52	-0,50	-0,26	0,15	-0,60	1,33
Steenderen	280	14	-1,02		-0,81	0,20		0,33	-1,41
Steenwijkerland	1708	10	-0,06	-0,33	0,42	-0,56	0,55	0,71	-0,63
Stein	971	39	-0,08	0,29	-0,98	-0,76	-0,19	-0,50	0,71
Strijen	617	29	-0,47		0,52	-0,07		0,71	1,05
Swalmen	975	38	0,23		-1,20	-0,67		-1,06	0,62
Ten Boer	9	3	-0,27		0,72	-0,36		1,31	-1,80
Ter Aar	480	28	-1,14		-0,29	0,49		-1,08	0,55
Terneuzen	715	31	0,57	0,59	0,68	-0,88	-0,22	-0,18	0,99
Terschelling	93	4	0,37		-0,27	0,94		2,21	-0,66

APPENDIX

	#M	#C	PMA	PMA-R	PRC	IND	IND-R	EAC	DST
Texel	448	18	0,60	0,96	-0,18	0,47	1,34	0,96	-0,18
Tholen	716	32	-0,68	-0,17	2,46	-0,91	0,00	-0,19	0,58
Thorn	977	38	-0,34		-1,03	-0,08		-1,27	-0,26
Tiel	281	16	0,64	0,47	0,09	-0,88	-0,38	0,49	1,27
Tilburg	855	34	2,19	0,34	-0,80	-0,96	-0,57	-0,52	0,52
Tubbergen	183	12	-2,17	-1,83	-0,98	-0,61	-0,23	-2,34	-1,72
Twenterand	1700	12	-1,22	-0,89	1,09	-1,47	-0,44	-0,85	-1,17
Tynaarlo	1730	7	-0,04	0,23	-0,15	1,43		1,81	-0,94
Tytsjerksteradiel	737	4	-0,53	-0,67	0,12	-0,38	0,11	0,69	-1,45
Ubbergen	282	15	1,16		-1,11	0,98		-0,63	-1,68
Uden	856	35	0,68	0,71	-0,92	-0,65	-0,50	-0,68	0,17
Uitgeest	450	20	-0,31	0,10	-1,20	0,61	-0,05	0,95	0,02
Uithoorn	451	23	0,24	0,47	-0,46	1,30	0,28	0,05	0,65
Urk	184	40	-1,89	-1,58	6,15	-2,61	-1,37	-2,73	-1,73
Utrecht	344	17	3,48	0,47	-0,27	0,12	-0,57	0,45	-1,45
Vaals	981	39	1,09	0,06	-0,34	-0,28	-0,57	-1,06	0,48
Valkenburg	619	25	-1,65		0,62	0,06		0,19	-0,28
Valkenburg aan de Geul	994	39	0,63	0,45	-0,85	-0,19	0,03	-1,25	-0,76
Valkenswaard	858	36	0,47	-0,02	-0,78	0,03	0,01	-0,83	0,56
Veendam	47	1	0,55	0,11	-0,18	-1,26	-0,02	2,31	0,45
Veenendaal	345	17	-0,14	-0,84	2,10	-0,78	-0,55	-0,80	-0,02
Veere	717	32	-0,55	0,20	1,48	0,15	0,38	-0,40	-1,08
Veghel	860	35	-0,42	0,13	-0,76	-0,76	-0,53	-0,97	0,05
Veldhoven	861	36	0,19	-0,12	-0,92	-0,21	-0,49	-0,90	0,43
Velsen	453	20	0,71	0,27	-0,13	0,34	0,24	0,50	1,14
Venhuizen	454	18	-0,86		-0,56	0,82		1,15	0,95
Venlo	983	37	1,05	0,14	-0,42	-0,75	0,01	-0,85	1,24
Venray	984	37	0,18	0,41	-0,77	-0,60	-0,12	-0,81	0,09
Vianen	620	17	0,04	0,40	0,08	-0,48	-0,74	0,38	1,20
Vlaardingen	622	29	1,51	0,02	0,62	-0,88	-0,55	0,00	1,54
Vlagtwedde	48	1	0,14	0,08	-0,43	-1,00	0,48	1,02	-0,19
Vlieland	96	4	0,42		-0,25	1,23		3,76	0,34
Vlissingen	718	32	1,78	1,23	0,47	-1,23	-0,42	0,44	1,55
Vlist	623	28	-1,12	-0,53	0,87	0,14	-0,07	0,19	0,23
Voerendaal	986	39	-0,01	0,27	-0,74	0,62	0,27	-1,83	-0,36
Voorhout	625	25	-0,82	-0,06	-0,51	1,06	0,17	0,17	-0,09
Voorschoten	626	25	0,47	-0,31	0,23	2,53	0,58	-0,45	-0,31
Voorst	285	13	-0,69	-0,20	-0,22	0,62	0,89	0,00	-0,97
Vorden	286	14	-0,64		-0,46	1,00		-0,03	-1,45
Vught	865	35	0,87	0,66	-0,62	1,06	0,16	-0,57	-0,46
Waalre	866	36	-0,13	-0,96	-0,44	1,53	-0,33	-0,94	0,05
Waalwijk	867	34	0,24	0,14	-0,20	-0,72	-0,19	-0,40	1,00
Waddinxveen	627	28	-0,37	-0,18	1,24	0,09	-0,42	-0,36	0,62
Wageningen	289	13	3,14	1,53	0,19	0,71	-0,03	0,22	-3,12
Warmond	628	25	0,22		-0,29	1,81		-0,87	-0,17
Warnsveld	291	14	0,65		-0,15	0,74		0,69	-1,24
Wassenaar	629	26	-0,32	-1,04	0,37	3,69	0,71	-0,76	0,62
Wateringen	630	27	-0,89	-0,99	-0,51	0,75	0,27	-0,55	1,40
Waterland	852	23	-0,14	0,40	-0,47	1,65	0,86	1,13	0,00
Weert	988	38	0,23	0,29	-0,56	-0,34	0,00	-0,70	0,92
Weesp	457	24	1,54	1,29	-0,09	0,68	0,34	0,72	0,34
Wehl	292	14	-1,17		-1,31	-0,34		-1,24	-1,09

RETHINKING THE CULTURE - ECONOMY DIALECTIC

	#M	#C	PMA	PMA-R	PRC	IND	IND-R	EAC	DST
Werkendam	870	34	-1,01	-0,54	1,25	-0,79	-0,84	-0,77	-0,04
Wervershoof	459	18	-1,05		-1,06	-0,12		-0,12	1,17
West Maas en Waal	668	16	-0,70	-0,10	-1,13	0,07	0,42	-0,77	-0,47
Wester-Koggenland	558	18							
Westerveld	1701	9	-0,562	-0,084	-0,307	0,57	1,097	2,037	-1,07
Westervoort	293	15	1,088	0,862	-0,456	-0,047	0,447	0,294	0,431
Weststellingwerf	98	6	0,122	-0,228	-0,437	-0,699	0,587	1,534	-0,176
Westvoorne	614	29	-0,804	-0,107	0,139	1,3	0,259	0,978	1,683
Wierden	189	12	-1,49	-0,919	0,605	-0,384	-0,049	-1,43	-1,7
Wieringen	462	18	-0,193		-0,514	-0,285		1,949	1,515
Wieringermeer	463	18	-0,521	0,501	-0,114	-0,22	0,766	0,685	0,995
Wijchen	296	15	0,166	0,077	-1,03	-0,354	-0,371	-0,117	-0,04
Wijdmeren	1696	24							
Wijk bij Duurstede	352	17	0,165	0,29	-0,234	0,494	0,063	0,517	0,207
Winschoten	52	1	1,62	0,44	0,252	-1,3	0,185	1,709	0,022
Winsum	53	3	0,397	-0,037	0,188	-0,159	0,318	1,24	-2,04
Winterswijk	294	14	0,041	0,015	-0,303	0,078	1,083	1,358	-0,64
Wisch	295	14	-0,218	0,12	-0,522	-0,419	0,304	0,325	-0,511
Woensdrecht	873	33	0	1,016	-0,654	-0,524	-0,445	-0,921	1,839
Woerden	632	17	-0,048	-0,164	0,261	0,468	-0,299	-0,235	-0,233
Wognum	466	18	-0,959		-1,01	0,294		-0,325	0,142
Wormerland	880	22	0,483	1,494	-0,82	0,599	0,573	1,487	-0,358
Woudenberg	351	17	-0,801	0,042	1,825	0,064	0,079	-0,402	-0,855
Woudrichem	874	34	-0,868	-1,04	1,143	-0,691	-0,232	-0,652	-0,6
Wûnseradiel	710	5	-0,189	0,372	-0,147	-0,2	0,883	0,68	-0,989
Wymbritseradiel	683	5	-0,805	-0,676	-0,119	-0,338	0,447	-0,02	-1,52
Zaanstad	479	22	1,512	0,753	-0,297	-0,406	-0,27	1,186	1,232
Zaltbommel	297	16	-0,362	-0,015	1,538	-0,245	-0,308	-0,273	-0,497
Zandvoort	473	21	1,331	0,7	0,059	1,71	1,481	0,632	2,288
Zederik	707	30	-1,48	-0,817	1,942	-0,221	-0,17	-0,747	-0,979
Zeevang	478	23	-0,471		-0,402	1,733		2,378	0,411
Zeewolde	50	40	-0,552	0,025	0,728	0,539	0,31	0,472	0,687
Zeist	355	17	1,522	0,491	0,389	1,252	0,189	-0,145	-0,26
Zelhem	298	14	-0,88	-0,175	-0,093	0,085	0,699	0,439	-0,757
Zevenaar	299	15	0,774	0,649	-0,562	-0,429	-0,31	-0,364	-0,023
Zevenhuizen-Moerkapelle	1666	28	-1,43	-0,498	1,595	0,383	-0,057	0,288	0,396
Zijpe	476	18	-0,463	0,233	-0,632	0,13	0,278	1,624	0,926
Zoetermeer	637	26	1,325	0,104	0,25	0,645	0,006	0,205	1,456
Zoeterwoude	638	25	-0,148		-0,931	0,347		-0,979	-0,54
Zuidhorn	56	3	-0,183	-0,092	1,019	-0,252	-0,08	0,604	-2,18
Zundert	879	33	-0,796	0,143	-1,11	-0,388	0,015	-1,1	0,546
Zutphen	301	14	2,48	1,32	-0,403	-0,809	-0,296	1,11	-0,742
Zwartewaterland	1896	10	-1,31	-0,696	3,087	-1,71	-0,885	-0,771	-1,39
Zwijndrecht	642	30	0,341	-0,12	1,043	-0,365	-0,224	-0,044	1,534
Zwolle	193	10	1,704	0,694	0,321	-0,759	-0,706	0,818	-1,29

SUMMARY

Over the past decades, the popularity of culture as an explaining factor in economic geography, economics, and management and organisation studies has grown steadily. Slowly it has become more or less common practice to point at culture whenever more traditional explanations have failed. At the same time the expanding toolkit of cross-cultural psychology provided an ever-growing data set on (aspects of) culture. Hofstede is probably the best-known and most influential example hereof. In the 1990s the social sciences, geography included, experienced what is now called a 'cultural turn'. Increasingly, culture was used to explain regional and (inter-) national differences in, for instance, wealth and economic growth. Some twenty years earlier, in the 1970s, Marxist approaches in social science induced interest in the opposite relationship: the economic 'mode of being' as an explanation for social and cultural difference.

The concepts of "culture" and "economy" have played a key role in (the development of) social science and its development. 'In much of twentieth century discourse, "culture" and "economy" have been represented in juxtaposition, if not indeed as an outright contradiction of terms' (Kockel 2002b, p. 1). In social scientific theorising especially, "culture" and "economy" are (nearly) dichotomous concepts. Social reality tends to be divided into two mutually exclusive categories: culture and economy. The concept dichotomization and the (conjectured) relationships between culture and economy represent a *dialectic*: the 'culture - economy dialectic' (hereafter abbreviated **CED**).

The CED is at least as old as social science; some (conceptually) related dialectics, often difficult to distinguish from the CED itself, are much older, however. The history of the CED as a dialectic of *social* categories started in the 18th century. Its introduction into (human) geography is, however, of much more recent date. Only in the second half of the 20th century, did the CED oust the traditional man - environment dialectic, which was a defining characteristic of classical geography. With the introduction of the CED into geography and the rising interest in culture in general, geography became increasingly dependent on fuzzy concepts. The same is also true for the other social sciences, albeit that in those the conceptual framework of the CED was already present at their 'births'.

"Culture" itself is probably the best example of such a fuzzy concept. There are hundreds of definitions of "culture", severely limiting useful communication between theorists and theories of culture and the CED. Nevertheless, many scientists believe that culture (in general and the CED in particular) is a promising field of inquiry. To fulfil that promise, however, a thorough analysis of the CED, of its concepts and theories, is necessary. Such an analysis was the goal of the research project from which this book resulted. The focus of this research project was on the development of (scientific) thought on the relationships between the concepts and phenomena of culture and economy. The core question, however, was not so much on actual relationships therebetween, but on the meaning of questions

about these relationships and on the apparent importance of these questions in (or to) social science.

Answering this core question requires first of all an analysis and reconstruction of the conceptual framework of the CED. To compare, test and/or integrate theories, it is necessary to (re)write them in a common language. There is, however, no such common language available. The concepts of "culture" and "economy" have numerous (including some contradictory) meanings in different theories and different disciplines. Conceptual analysis and conceptual history may help construct the common language needed, but may also shed some light on the role of the CED in the 'birth' of and the disciplinary divisions in the social sciences. Moreover, as many theorists claim that language, concepts and/or meaning are key aspects of culture, studying culture itself *is* (a form of) conceptual analysis.

As is the case with the CED, there is no comprehensive theory of conceptual analysis. Forms or versions of conceptual analysis are applied in analytical philosophy, linguistics, artificial intelligence, information and computer science, management and organisation, social and intellectual history, nursing, and the social sciences. Among many of these applications, there is no contact whatsoever. Often conceptual analysts even seem to be unaware of similar approaches in other fields. The first step in this research project, therefore, was an attempt to integrate the many forms and versions of conceptual analysis into a single comprehensive theory and a methodology applicable in social science in general and in the analysis of the CED in particular. The result was a theory of concepts of sets of sets (of sets) of (other) concepts and relationships therebetween. Conceptual analysis then means specification of these sets of sets (etc.). Because of the internal structure of these sets, it seems obvious to first specify conceptual history and then to systematically map the different meanings, definitions and interpretations. The last step is the reconstruction of the conceptual field: the introduction of definitions, translation rules and/or new concepts.

Application of this methodology to the CED requires a number of stages, partly resulting from the stages in the methodology and partly from the complexity of the CED itself. The CED as analysandum consists of three concepts and a number of relationships therebetween. These concepts are "culture", "economy" and an intermediate term usually pointing at some kind of causality. Therefore, an analysis of the CED requires both the analysis of the concepts of "culture" and "economy" and of the relationships assumed therebetween.

The conceptual pair "culture" - "economy" is part of a long tradition of dichotomous thought. Most theorists assume that this dichotomous thought originated from the man - woman opposition. Through (a.o.) order - chaos; reason - passion; and civilisation - culture this opposition developed into (a.o.) the CED. Although it can, therefore, be argued that the history of the CED starts with the conceptualisation of the opposition between the concepts of "man" and "woman", the first meaningful theoretical contributions to the development

were related to the reason - passion dialectic. After the introduction of 'the social' as a separate category of reality in the late 18th century, the reason - passion dialectic was lifted to this new social level and transformed into "civilisation" and "culture". These two concepts summarised two – in many respects – diametrically opposed worldviews: Enlightenment and Counter-enlightenment or Romanticism. "Reason" and "civilisation" were the catchwords of the Enlightenment; "Passion", "tradition" and "culture" those of Romanticism.

These different worldviews were – to some extent – related to different approaches in social science. The scientific ideal of the Enlightenment was both empiricist and rationalist at the same time. Its starting point was the assumption of universal laws (both in nature and in social reality). This universalist and rationalist approach resulted in economics; the more empirical approach led to the 'birth' of sociology. It, however, led to three major results: the dismissal of universalism, the introduction of "culture" as an alternative to "civilisation", and the rise of Counter-Enlightenment and Romanticism.

In the early 19th century the conceptual pair "culture" - "civilisation" transformed from an opposition of worldviews into a dialectic of aspects of social reality. Increasingly, "culture" was interpreted as the more spiritual (Romantic) aspects of society, and "civilisation" as the more rational (Enlightened). Both concepts, however, had different connotations and alternative meanings. "Culture" was often regarded to be primitive, while "civilisation" was sometimes used as a synonym for the Western world. Those connotations and alternative meanings made the concepts less useful in scientific practice. Theorists of the CED, therefore, sometimes introduced new terms. Marx, for example, introduced "base" and "superstructure". Moreover, in the second half of the 19th century, the concepts of "culture" and "civilisation" started to grow together until they became – in scientific usage – nearly synonymous. In the CED, therefore, a new term was necessary. The term that – to some extent – replaced "civilisation" was "economy".

The substitution of "economy" for "civilisation" could not have taken place much earlier because the concept of "economy" also experienced considerable changes in meaning. Originally the concept referred to organisation, to housekeeping, or to the organisation of housekeeping. In the 18th century it was used in the compound term "political economy" to refer to the organisation of housekeeping of the state. The concept further developed through the organisation of the creation of national wealth into the organisation (or institutions – in more modern terms) of the productive, consumptive and distributive aspects of society. Only after the Second World War did the concept get its modern meaning as the aggregate of productive, consumptive and distributive behaviour. In this development, the concept of "economy" became gradually more similar to "civilisation", which in its late 19th century form can be translated (in modern terms) as (the institutions of) economy plus technology. When Marx wrote his base - superstructure thesis, this development was still in its early stages and, hence, he had to introduce new terms.

In (human) geography the CED has been virtually absent for centuries. Two histories of geography can be distinguished: the textbook history of exploration and description of other

countries and regions, and the intellectual history of man - environment relationships. The latter started in ancient Greece in the form of physical determinism, the theory that social and cultural arrangements in a group of people are determined by their physical geographical environment. Physical determinism was picked up by the Arabic scholars and returned to Europe after the Middle Ages, where it quickly became a more or less common worldview and where it influenced the first great classical geographer, Ritter. Only in the century after Ritter were the antithesis of physical determinism, theories on the influence of man on his environment, and a synthesis introduced in geographical thought.

In this dialectic of man and environment, the CED was virtually absent. The categories of "culture" and "economy" were dissolved in the broader category of "man". Only in the second half of the 20th century did this change. First the man - environment dialectic, the theoretical core of geography, was replaced by an abstract approach based on isotropic planes and distances. Next, in the 1970s, the (mainly) Marxist and humanist reaction introduced the CED into geographical thought. Within three decades, geography lost its original and unique perspective and adopted the social scientific standard view.

Because of the enormous number of definitions and interpretations of especially the concept of "culture", mapping the different forms of the concepts of the CED is no simple task. Definitions can be classified by common definitional elements, but these classifications clarify little. Even within periods and disciplines there seems to be hardly any consensus on the meaning of "culture". There seem to be far less competing interpretations of "economy", but the history of the concept and related concepts such as "civilisation" show that this is not a completely unambiguous concept as well. In both cases, however, conceptual reconstruction is possible by means of the introduction of basic (or even atomic) concepts that can be made more specific by adding attributes in a taxonomic structure. In this way, the different interpretations of "culture" and "economy" can be translated as different specific subtypes of the basic concepts and can be related to each other within the formal taxonomic structure.

The construction of such a framework is a form of applied social ontology. An analysis of the many definitions and interpretations suggests that meta-behavioural entities and actual behavioural events are the ontological primitives (most basic concepts) of the framework. All versions of the CED are relationships between subsets of behaviour and/or meta-behaviour. Meta-behaviour is the set of all *social* influences on and determinants of actual behaviour. It includes theories, concepts, institutions, values, norms, habits and (nearly) all other aspects of "culture" suggested throughout the ages. In nearly all theories of the CED, the C pole refers to a specific subset of meta-behaviour. The nature of the E pole, however, is less unambiguous, which is the consequence of the concept's development. The E pole can be a subset of institutions and, therefore, a subset of meta-behaviour, but it can also refer to the aggregate of productive, consumptive and distributive behaviour, and hence, to actual behavioural events. This difference is of great consequence in the analysis of the CED.

Theories of the CED can be loosely divided into two groups, which are in this book labelled the *first* and *second grand theory*. The *first grand theory* is Marx's *historical materialism* and (earlier and later) related theories on the influence of the (condition and/or organisation of the) economy on aspects of culture (or meta-behaviour). The *second grand theory* is Weber's thesis on the Protestant work ethic and (later) theories on the influence of culture on entrepreneurship and economic growth. Besides the two grand theories a number of *minor* theories, which are only 'minor' in the sense that they are unrelated to the two grand theories (and are not 'grand' themselves), are distinguished. Examples of these *minor* theories are those on embeddedness, consumer behaviour and institutions.

To facilitate testing of (some of) the theories of the CED, it was attempted in this study to measure culture or meta-behaviour on the spatial scale of Dutch municipalities. The choice for this spatial scale was primarily motivated by the fact that there has been abundant research done on the (inter-) national scale but hardly any on smaller spatial scales and because there is no clarity on the question of which spatial scales are relevant to the CED. Measuring culture, however, is not that easy. The most obvious method of measuring culture is the indirect measurement of meta-behaviour by constructing the deeper factors behind actual behaviour through the means of factor analysis. It is, however, difficult to otherwise interpret these factors than as core value orientations, while in the meta-behaviour they reflect, concepts, theories and institutions are relevant as well. The statistical analysis presented in this book resulted in five dimensions of regional culture in the Netherlands: (1) post-materialism; (2) Protestant conservatism; (3) classical individualism; (4) egalitarian anti-conservatism; and (5) dissatisfaction. Interestingly, all five seem to be related to some form of individualism. Ten conclusions result from earlier empirical research and from new tests based on this new data:

- (1) Partly confirming the first grand theory, increasing wealth results in cultural change. The most important effects found were an increase of (a) individualism; (b) post-materialism; (c) economic freedom; (d) civil and (e) political rights; and a decrease of (f) competitiveness. Contrary to theory, no effect of wealth on work ethic was found.
- (2) There does not seem to be a consistent relationship between Hofstede's dimensions of culture and any aspect of entrepreneurship. Any possible value on any of Hofstede's dimensions may have a positive influence on any aspect of entrepreneurship.
- (3) Similarly, in some studies post-materialism was found to negatively influence self-employment, while it was found to have a positive influence in the empirical part of this study. These different effects of the same cultural dimension on the same economic variable may be related to the fact that post-materialism is *non-atomic*. It is composed of several culturally different phenomena that may have contradictory effects. The lower valuation of profit and material wellbeing may negatively influence self-employment, while self-expression and self-development may promote it. The lack of consistent relationships between Hofstede's

dimensions and entrepreneurship may be caused by the same phenomenon: some aspects of, for example, individualism have a positive effect on self-employment and innovation, while other aspects have negative effects.

- (4) The only cultural dimension (if it is one) that seems to have a consistent and significant positive effect on self-employment is dissatisfaction.
- (5) On the regional scale a positive effect of Protestantism on self-employment was found confirming Weber's thesis. On the (inter-) national scale, however, no such confirmation was found. This may be caused by the fact that national cultural differences overpower religious and other types of difference. In other words, some cultural effects disappear on the (inter-) national scale.
- (6) Therefore, it may be advisable to study the CED or the effects of cultural values on behaviour in general on the regional rather than the (inter-) national scale.
- (7) Hoselitz's thesis that marginal groups such as ethnic minorities are more entrepreneurially active than their host populations seems to be sufficiently backed by empirical evidence.
- (8) Contrary to popular belief, there is *no* consistent evidence for the theory that entrepreneurship positively influences economic growth.
- (9) No consistent direct effects of culture on economy were found. It is often assumed that individualism promotes economic growth. In this study, however, the opposite relationship was found: collectivism seems to positively influence economic growth. The evidence for this relationship, however, was not particularly strong.
- (10) Institutions do (or seem to at least) affect economic growth, but often are effects of economic growth and/or wealth as well. Hence, the direction of causality in this type of relationships is generally unclear.

Not all theories of the CED have been tested. Some are too vague to make sensible testing possible, and in many cases, the categories related cannot be measured (or even operationalised in any other way).

Besides the theoretical conclusions (conclusions on the theories of the CED) above, the different analyses (conceptual, theoretical, empirical) also resulted in some meta-theoretical and/or philosophical conclusions.

The body of theories on relationships between culture and economy is characterised by a bewildering variety of concepts, categories and ideas. There seem, however, to be two broad types of theories: (1) very broad and vague theories, that are impossible to test; and (2) very specific theories that are mostly tested but are not always consistently confirmed or refuted. Most of the theoretical contributions seem to be of the first type. In all of these theories – and in many of those belonging to the second group as well – the relationship assumed is so vague or complex that falsification is impossible. The relationship between post-materialism and entrepreneurship (see conclusion 3 above) may serve as an example. If theories cannot be falsified they are – according to Popper – unscientific. This seems to be a problem for the whole of the CED (or even the whole of social science) because even

the most rigorous theories allow enough external influences, loopholes and other escapes to explain why any negative test result is not a refutation.

An additional problem is that for every increase in detail there is a corresponding increase in complexity. For every theory there is number of more specific theories, some of which seem to be confirmed while others are refuted. Hence, a claim that there is a reciprocal relationship between aspect of culture X and aspect of economy Y may, after testing of more specific theories (theories on the relationships between subsets of X and Y), have to be replaced by: X1 leads to Y leads to X2. In this case the earlier, less detailed, theory would still be true, but not very useful. As a consequence hereof it may be concluded that the existence of a relationship is to a large extent dependent on the categorisation of the concepts or phenomena related, and hence, that the nature of a relationship between culture and economy – if there is one – is possibly conceptual rather than causal. Therefore, an analysis of the CED is (to some extent) conceptual analysis.

Whether a relationship assumed between categories is conceptual rather than causal is dependent on the form of that relationship. All theories of the CED can be constructed out of variants of three basic forms of theories:

- (1) meta-behaviour of type X causes behaviour of type Y;
- (2) meta-behaviour of type X causes meta-behaviour of type Y; and
- (3) behaviour of type X causes meta-behaviour of type Y.

An analysis of these basic forms of theories shows that (1) is true by definition if there is a conceptual overlap between X and Y and that (2) is true in the same case, which implies that (1) and (2) are conceptual rather than causal relationships. The third basic form of theories, however, is of a different nature: (3) *is* a causal relationship. The third is a subtype of a more general basic form (3a): the set of actual entities (the social and physical environment) of type X causes meta-behaviour of type Y. It seems that, broadly speaking, there are two types of theories in / of the CED: theories that are misunderstood conceptual overlaps and theories that concern the (external) conditions of (types or aspects of) meta-behaviour. This last conclusion may be regarded a (critical) *synthesis* of the CED. This synthesis points at the fact that empirical results do not always reflect positive facts, but may be artefacts of conceptualisation and measurement.

The three basic forms of relationships in the CED described above are also the basic components of theories in the social sciences in general. Any social scientific theory can be constructed from these components. Hence, in a sense, it can be argued that the field of the CED *is* the field of social science. There is, however, one exception that studied two additional relationships (basic forms of theories): classical geography. These two additional basic forms are:

- (4) a physical environment of type X causes meta-behaviour of type (like (3) a special case of (3a)); and
- (5) behaviour of type X causes a physical environment of type Y.

Together these two form the before mentioned man - environment dialectic, the theoretical core of classical geography. In modern geography, however, (4) and (5) are of very limited

relevance. In practice, modern geography deals with spatial or regional differences in (1), (2) and/or (3). Hence, in practice, modern geography is spatial or regional sociology or economics. Only a few social scientists still study the topics of classical geography and they are rarely from a geographical background. As a consequence, human geography produced hardly any new and/or original ideas in the last few decades. By now an increasing number of geographers seem to acknowledge this problem. On a way out of this crisis (which is, however, rarely recognised as such) there is little consensus. This research project (especially the meta-theoretical conclusions above) seems to point at an obvious solution: a reorientation on the core of classical geography: the man - environment dialectic. After all, in modern social science this dialectic is largely ignored. Geography, therefore, has a world to (re-)gain.

In social science in general, conceptual analysis should play a far greater role in research. As mentioned above, many of the relationships assumed in social science are conceptual rather than causal. Empirical research that insufficiently takes this into account can only produce trivial results. An obvious methodological approach in social science is, therefore, a combination of conceptual (or ontological) analysis and demographical or epidemiological research based on rigorously analysed, defined and measured categories (in that conceptual analysis).

According to Comte, science progresses through three stages. The first is the *theological* stage in which the world experienced is explained by reference to supernatural forces. The second is the *metaphysical* stage in which explanation is dependent on abstract concepts and speculation. Only in the third and final stage, is *positive* science substituted for superstition and metaphysics. Comte claimed that most of the sciences advanced to the positive stage. The main exception was sociology, which was founded, as a scientific discipline, by Comte himself. Comte hoped that the new discipline would progress through the stages quickly, but more than one-and-a-half centuries later, the social sciences still do not seem to have passed the metaphysical stage. (Orthodox economics with its belief in markets as 'invisible hands' seems even to be lingering in the first stage.) Theories of culture, economy and entrepreneurship and the social sciences in general are infested with myths, abstract concepts without real-world counterparts and petrified contingencies. It seems that many of our beliefs and perceptions are based more on myth than on reality.

One of the most persistent myths is that of boundaries. Boundaries are social constructions, not external reality. This is true for boundaries between cultures and regions, but also – and more importantly – for boundaries between scientific disciplines and categories (concepts). Hence, a more anarchist approach to social science is needed. Such an anarchist approach is necessarily multi- or inter-disciplinary and includes conceptual analysis as an essential tool in scientific research.

In the final sections of this book the historical development of the CED and some related pairs of concepts is reviewed once more. These pairs (dichotomies and dialectics) seem to

be part of a larger system, a *trialectic* in which nature or environment is a third pole and in which there are intermediate concepts between any two corners (poles) of the triangle. Most of the poles and intermediates are opposed in dichotomies or dialectics and between most there are theoretical relationships. This trialectic, however, maps only (part of) our conceptual framework, not reality. The concepts of "culture" and "economy" refer to ideas, not to the world. They reflect our perception of reality, not reality itself. There are no (objectively limited) counterparts of "culture" and "economy" in reality. Hence, as *scientific* concepts these are relatively useless. Moreover, if there are no culture and economy, neither can there be relationships therebetween. As a consequence, the concept of such a relationship (the CED) is *scientifically* useless as well. Therefore, "culture", "economy" and the relationships therebetween are misconceptions about which it is better to further remain silent.

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Lajos L. Brons

RETHINKING THE CULTURE – ECONOMY DIALECTIC

supplement 1:

*BEHAVIOUR, ENVIRONMENT,
AND GEOGRAPHY*

The Hague — July 2005

But man is everywhere a disturbing agent. Wherever he plants his foot, the harmonies of nature are turned to discords. The proportions and accommodations which insured the stability of existing arrangements are overthrown. Indigenous vegetable and animal species are extirpated, and supplanted by others of foreign origin, spontaneous production is forbidden or restricted, and the face of the earth is either laid bare or covered with a new and reluctant growth of vegetable forms, and with alien tribes of animal life. These intentional changes and substitutions constitute, indeed, great revolutions; but vast as is their magnitude and importance, they are, as we shall see, insignificant in comparison with the contingent and unsought results which have flowed from them.

G.P. Marsh 1864, p. 36

S1 / 1 / introduction

In chapter 8 of *Rethinking the Culture - Economy Dialectic* (Brons 2005; hereafter abbreviated RCED), five forms of basic theories or relationships were distinguished:

T8.5 meta-behaviour of type x causes behaviour of type y;

T8.6 meta-behaviour of type x causes meta-behaviour of type y;

T8.7 behaviour of type x causes meta-behaviour of type y;

T8.8 a physical environment of type x causes meta-behaviour of type y; and

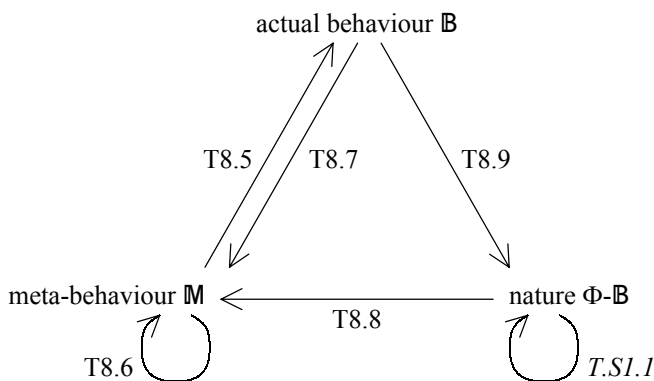
T8.9 behaviour of type x causes a physical environment of type y.

The first three hereof are the atomic forms of the CED; the latter two are the basic theories of the man - environment dialectic (MED). In table 8.1, repeated below, some of the characteristics of these five relationships and their formal structures were briefly summarised. Figure S1.1 graphically represents the five forms in a single model (T.S1.1 in the bottom right corner of the figure will be dealt with in the next section).

table 8.1_(rep.): *basic theories, relationships and disciplines*

theory	type of relationship	scientific discipline(s)
T8.5_R $\Delta M_x \Rightarrow \Delta B_y$	conceptual	sociology, economics, <i>post-classical</i> geography, etc.
T8.6_R $\Delta M_x \Rightarrow \Delta M_y$		
T8.7_R $\Delta B_x \Rightarrow \Delta M_y$	causal	
T8.8_R $\Delta(\Phi-B)_x \Rightarrow \Delta M_y$		
T8.9_R $\Delta B_x \Rightarrow \Delta(\Phi-B)_y \rightarrow$ possibly both		classical geography

figure S1.1: *the structure of theoretical forms*



Of the three relationships that make up the CED, the first two (T8.5 and T8.6) were shown to be conceptual, while the third (T8.7) actually *is* a causal relationship (see § 8.3.2). It was pointed out (in §§ 8.3.2 and 8.4) that T8.7 and T8.8 are special cases of a more general form T8.7a ($\Delta\Phi_x \Rightarrow \Delta M_y$), which can be described in common language as 'conditions (co-)determine meta-behaviour'. Hence, 'half' of the man - environment dialectic, the theoretical core of classical geography, was analysed as a causal relationship. However, the other relationship, T8.9 was not analysed in RCED because the focus of the book was on the CED, not on the MED. This supplement deals with the analysis of T8.9 and its possible implications for geography.

S1 / 2 / behaviour, environment, and the causal - conceptual distinction

In table 8.1, repeated above, it was suggested that T8.9 may be both causal and conceptual. No argument for this suggestion, however, was offered in RCED. T8.9 is the form of basic

theory that states that (a change in) behaviour of type x results in (a change in) the physical environment of type y . This may seem like a straightforward causal relationship. However, it is not. The behavioural event of ploughing, for example, may seem to *cause* a furrow, but this is hardly an accurate description of the relationship. Ploughing is creating furrows. Hence, furrows are *conceptually implied* in ploughing, not caused by it. The difference between an effect and a conceptual implication is that the first is not necessary for the concept to apply, while the second is. Creating furrows, ploughing, is intended to improve the soil quality. Nevertheless, if this improvement fails, you are still ploughing. You can not plough without creating furrows, but you can plough without the intended soil quality improvement.

Nevertheless, T8.9 is not a purely conceptual relationship. The problem is that every change in the physical environment will result in some further changes (no matter how big or small):

T.S1.1 $\forall x \exists y [\Delta(\Phi-\mathbb{B})_x \Rightarrow \Delta(\Phi-\mathbb{B})_y]$.

Creating furrows (x) results in changes in the soil quality (y). This is the intended result of ploughing. Not all changes, however, are intended or known to the ploughman (see the quote above). There may be ecological effects (or effects of effects), for example, that are hard to predict.

Combining T.S1.1 with T8.9 results in:

T.S1.2 $\forall x,y [(\Delta\mathbb{B}_x \Rightarrow \Delta(\Phi-\mathbb{B})_y) \rightarrow \exists z [\Delta(\Phi-\mathbb{B})_y \Rightarrow \Delta(\Phi-\mathbb{B})_z]]$,

in words: for every x and y that are related by form T8.9 ($\Delta\mathbb{B}_x \Rightarrow \Delta(\Phi-\mathbb{B})_y$), there is an environmental effect z that is caused by (intended) environmental change y . While the relationship x - y (ploughing - furrow) may be conceptual, the relationship y - z (furrow - changes in soil ecology) is causal. Hence, the relationship between a type of behaviour (\mathbb{B}_x) or change therein and its 'total effects' is partly conceptual and partly causal.

However, the classification and delimitation of y and z is conceptual and, therefore, contingent. It could, for example, also be argued that ploughing conceptually implies drawing a plough through soil (the x - y relationship) and that drawing a plough through soil causes the furrow (the y - z relationship). Whether the furrow is an implication (y) or an effect (z), therefore, dependent on conceptualisation. Hence, the delimitation between causal and conceptual parts of a relationship of the form T8.9 is conceptual itself. What in some conceptual framework is regarded an effect is an implication in another. Causality, then, is dependent on conceptualisation. Consequently, no strict demarcation line can be drawn between causal and conceptual relationships (see also § 2.2.1 and Quine 1951). The causal - conceptual distinction proves to be a dialectic rather than a dichotomy.

S1 / 3 / geography

While the relationship between x and y in T.S1.2 is one between human behaviour and physical environment, y-z is a relationship between purely natural events or phenomena. The relationships x-y and y-z, therefore, belong to different scientific fields. The first belongs to the domain of social science, the second is the domain of natural science. Or, to be more precise, x-y is part of human geography and y-z is physical geography (in a very broad sense, including ecology).

The conclusion that the distinction between y and z is conceptual and, therefore, contingent, however, undermines the schism between human and physical geography. In studying the effects of human behaviour on his environment, it is impossible to isolate the physical and environmental changes made by man from their further effects. Such an isolation, moreover, is not just impossible, it is also undesirable. It is the total effect of human behaviour geography (and science in general) is (or at least should be) interested in, not just the direct, conceptual implications.

If human geography would choose to re-focus on the MED, the field would need some re-integration with physical geography (including ecology). An approach to geography that strongly focuses on man - environment interaction, that studies the influence of environments on meta-behaviour on the one hand and of the effects of human behaviour on the face of the earth on the other, would require a very broad perspective that explicitly includes nature and parts of natural science:

Zur Eigenart der Länder gehören Natur und Mensch, und zwar in so enger Verbindung, daß sie nicht von einander getrennt werden können. (Hettner 1927, p. 126)

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