Instinct and Habit before Reason:

Comparing the Views of John Dewey, Friedrich Hayek and Thorstein Veblen

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ABSTRACT

This article compares the views of Veblen, Dewey and Hayek on the roles and relations between instinct, habit and reason. From a Darwinian perspective, it is shown that Veblen had a more consistent and developed position on this issue than others. While Dewey embraced instinct and especially habit in his early works, these concepts gradually disappeared from view. Despite their shared opposition to the rising behaviorist psychology, the works of both Dewey and Hayek bear the marks of its hegemony. Consequently, at least in the context addressed here, the works of Veblen deserve reconsideration.

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'But in fact men are good and virtuous because of three things.
These are nature, habit or training, reason.'

Aristotle, *The Politics* (1962, p. 284)

Among species on Earth, humans have the most developed capacity for reason, deliberation and conscious prefiguration.[1] However, humans have evolved from other species. Their unique attributes have emerged by the gradual accumulation of adaptations. Our capacity for reason did not appear as a sudden and miraculous event. Philosophers and social theories have long pondered the place of human reason in human behavior and creativity. The facts of human evolution have a big impact on such considerations.

The concepts of instinct, habit and reason are complex, as is the relationship between them. Theories involving these concepts typically have many implications, from the causes of human action to the nature of social order. The terms instinct and habit both carry some unfortunate intellectual baggage. Nevertheless, for convenience I retain the word instinct as a tag for biologically inherited dispositions. Habit refers to learned dispositions. Instincts are inherited through genes, and habits through culture and institutions.

This paper considers the work of three leading thinkers in this area, namely Thorstein Veblen (1857-1929), John Dewey (1859-1952) and Friedrich Hayek (1899-1992). Charles Darwin influenced all three, and Darwinism is a benchmark against which they are compared. Although Darwinism profoundly influenced all three thinkers, its impact in psychological terms was greatest on Veblen. Veblen was not a behaviorist, and both Dewey and Hayek were resolute in their anti-behaviorism. But the works of both Dewey and Hayek reflect the long behaviorist hegemony and nadir of Darwinian thinking in psychology from the 1920s to the 1960s. With the strong revival of Darwinian thinking in both psychology and the social sciences, Veblen's work requires equal if not greater reconsideration.

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[1] I wish to thank participants at the Behavioral Research Council conference on 'Dewey, Hayek and Embodied Cognition: Experience, Beliefs and Rules', Great Barrington, Massachusetts, USA on 18-20 July 2003, plus anonymous referees for critical comments or discussions. In two footnotes below I criticize my friend Elias Khalil's interpretations of Veblen and Darwinism. My choice of him as a target for criticism does not imply any lack of gratitude to him for organizing such a magnificent conference. It reflects instead his energetic and stimulating presence at these proceedings. Some material in this essay, particularly in sections one and two, is based on passages from Hodgson (2004a). Section four develops a small amount of material from Hodgson (1993).

I believe that the social sciences can be reinvigorated by the careful application of Darwinian principles. This argument has been developed elsewhere (Hodgson, 2004a; Hodgson and Knudsen, forthcoming) and it is not possible to deal with all the misunderstandings of Darwinism that lie in the way.[2] I confine myself here to the concepts of habit, instinct and reason, and the relations between them.

1. The Darwinian Background

In much of philosophy and social theory since Classical Antiquity, human belief and reason have been placed in the driving seat of individual action. In particular, social theory has often taken it for granted, or even by definition, that action is motivated by reasons based on beliefs. In contrast, a minority has criticized the adoption of this 'folk psychology' that explains human action wholly in such 'mind first' terms. Critics point out that such explanations are a mere gloss on a much more complex neurophysiological reality. These dualistic and 'mind-first' explanations of human behavior are unable to explain adequately such phenomena as sleep, memory, learning, mental illness, or the effects of chemicals or drugs on our perceptions or actions (Bunge, 1980; P. M. Churchland, 1984, 1989; P. S. Churchland, 1986; Rosenberg, 1995, 1998; Kilpinen, 2000).

This challenge to orthodoxy derives further impetus from the revision of our view of the place of humanity in nature, which followed the publication of Charles Darwin's *Origin of Species* in 1859.[3] Darwin did not only proclaim that species had evolved, but also pointed to the causal mechanisms of evolution. Most fundamentally, and in addition to his discovery of the mechanism of natural selection, Darwin insisted that all phenomena – including human deliberation – should be susceptible to causal explanation. He extended the realm of causal explanation into areas that were deemed taboo by religious doctrine. He rejected explanations of natural phenomena in terms of design, to focus instead on the detailed causes that had cumulated in the emergence of elaborate phenomena over long periods of time.

Darwin (1859, p. 167) was aware that his *Origin of Species* offered far from a complete explanation of all aspects of evolution, and expressed a profound ignorance of the mechanisms that led to variations in organisms. But he did not believe that variations emerged spontaneously, in the sense of being without a cause. Darwin (1859, p. 209) asserted that such 'accidental variations' must be 'produced by … unknown causes' rather than embracing a notion of a spontaneous, uncaused event.

He believed that relatively simple mechanisms of cause and effect could, given time and circumstances, lead to amazingly complex and varied results. He upheld that complicated

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[2] I mention one only. Khalil (2003b, p. 177) writes: 'For natural selection theory, the subject (organism) is presented as passive, succeeding or failing in response to the object (the selection force) that is assumed to be self-constituted and independent of the subject.' This may be true of some versions of Darwinism, but it is not true of Darwin himself (who saw organisms as far from passive) and several traditions in Darwinian biology that stress strong interactions between organisms and their environment, including cases of frequency dependence (where fitness or selection pressure depend on the size of the population), active niche search or niche creation, and other instances where organisms choose or change their circumstances. See for example Levins and Lewontin (1985), Laland *et al.* (2000) and Hodgson (1993) for further references.

[3] Richards (1987) provides an extensive and powerful account of the impact of Darwinism on the development of the theory of mind.

outcomes could be explained in terms of a detailed succession and accumulation of step-by-step causal mechanisms. This doctrine applied to the most sophisticated and complex outcomes of evolution, such as the eye and human consciousness. Accordingly, there were neither sudden nor miraculous leaps in the evolution of human intentionality. Like all human attributes, they must have been prefigured in the species from which humans are descended. In this way the causal origin of these features is liable to explanation. Darwin (1859, p. 208) thus wrote: 'A little dose … of judgment or reason often comes into play, even in animals very low in the scale of nature.'

Thomas Henry Huxley, had similar views concerning causality and the aims of science. For Huxley the idea of uncaused and spontaneous event was absurd and unacceptable. Science was nothing less than an ongoing endeavor to reveal the causes behind phenomena. Huxley (1894, vol. 1, pp. 158-9) opined that the progress of science meant 'the extension of the province of what we call matter and causation'. Similarly, George Romanes (1893, p. 402) – a friend of Darwin and Huxley – argued that Darwinism

> seeks to bring the phenomena of organic nature into line with those of inorganic; and therefore to show that whatever view we may severally take as to the kind of causation which is energizing in the latter we must now extend to the former. … the theory of evolution by natural selection … endeavours to comprise all the facts of adaptation in organic nature under the same category of explanation as those which occur in inorganic nature – that is to say, under the category of physical, or ascertainable, causation.

Darwinism brought not only human evolution, but also the human mind and consciousness within the realms of science. An ongoing aim is to explain characteristic aspects of the human psyche in terms of natural selection; Darwinism thus brought the frontier of scientific enquiry to the inner workings of the human mind (Richards, 1987).

Darwin accepted that humans were intentional but insisted that intentionality itself was caused. Accordingly, there were neither sudden nor miraculous leaps in the evolution of human intentionality. Like all human attributes, they must have been prefigured in the species from which humans are descended. In this way the causal origin of these features is susceptible to explanation. In a paper of 1874, Huxley (1894, vol. 1, pp. 236-7) elaborated and generalized Darwin's argument as the 'doctrine of continuity':

> The doctrine of continuity is too well established for it to be permissible to me to suppose that any complex natural phenomenon comes into existence suddenly, and without being preceded by simpler modifications; and very strong arguments would be needed to prove that such complex phenomena as consciousness, first made their appearance in man. We know, that, in the individual man, consciousness grows from a dim glimmer to its full light, whether we consider the infant advancing in years, or the adult emerging from slumber and swoon. We know, further, that the lower animals possess, though less developed, that part of the brain which we have every reason to believe to be the organ of consciousness in man; … [they] have a consciousness which, more or less distinctly, foreshadows our own.

The growth of human intentionality must be considered not only within the (ontogenetic) development of a single individual, as the impulsive infant is transformed into the reasoning adult; but also within the (phylogenetic) evolution of the human species, from lower animals through social apes, to humans with linguistic and deliberative capacities.

The doctrine of continuity undermines dualistic presentations of intentional (or final) and physical (or efficient) causes, as completely separate and distinct types of cause. However, the

Darwinian attack on dualism is sometimes misinterpreted as an attempt to belittle human intentionality. On the contrary, the application of Darwinism to theories of mind led to the development of emergentist theories, where mental phenomena are seen as emergent properties physical relations (Morgan, 1923; Bunge, 1980; Blitz, 1992).

Such dualism is widely regarded as untenable. Barry Hindess (1989, p. 150) asked pertinently: 'If human action is subject to two distinct modes of determination, what happens when they conflict, when intentionality pushes one way and causality pushes another?' We do not and cannot know the answer, because to reach it would involve the reconciliation of irreconcilables. John Searle (1997, pp. xii-xiii) similarly remarked: 'dualism ... seems a hopeless theory because, having made a strict distinction between the mental and the physical, it cannot make the relation of the two intelligible.' Mario Bunge (1980, p. 20) put it in a nutshell: '*Dualism is inconsistent with the ontology of science*.'

The upshot is that human mental propensities have to be explained in evolutionary terms. Our intention and reason is framed and impelled by dispositions that we have either inherited or acquired. Instincts are inherited behavioral or mental propensities. The behavior of some organisms is largely instinctive. Fitter or more adaptive behaviors have an advantage, and the associated instincts will be generally favored by natural selection and inherited by succeeding generations.

Long ago, Aristotle (1956, p. 35) noted that '"habit" means a disposition' but can also be used to denote an activity. Darwin himself used the word in both senses, to refer to behavior, or to refer to a learned aptitude or acquired disposition. The meaning of habit is further complicated if we presume that acquired characters can be inherited. Darwin (1859, pp. 82, 137, 209) himself upheld this 'Lamarckian' proposition. If such Lamarckian inheritance were possible, then an acquired disposition might become hereditable and the distinction between habit and instinct would become blurred. As Darwin (1859, p. 209) himself claimed, if the inheritance of acquired characters occurs, 'then the resemblance between what originally was a habit and an instinct becomes so close as not to be distinguished.' Darwin provided a satisfactorily definition of neither habit nor instinct, despite his frequent use of these terms.

Matters changed shortly after Darwin's death in 1882, when August Weismann (1889, 1893) produced experimental evidence and theoretical arguments to undermine the idea of Lamarckian inheritance in biological organisms. Such results prompted Darwinian psychologists such as William James (1890) to make a more careful distinction between instinct and habit. He criticized Darwin for regarding instincts as accumulated habits. James defined instincts as biologically inherited dispositions, and habits as dispositions that were acquired or learned. Accordingly, habits are dependent on the particular environment experienced by the individual, whereas instincts do not exhibit such a degree of potential variability with circumstances.

James was part of the pragmatist movement in philosophy, which saw habit as coming before belief and reason. Charles Sanders Peirce (1878, p. 294) emphasized that the 'essence of belief is the establishment of habit'. The pragmatist Josiah Royce (1969, vol. 2, p. 663) announced in his 1902 presidential address to the American Psychological Association: 'The organization of our intelligent conduct is necessarily a matter of habit, not of instantaneous insight.' In the pragmatist view, habit supports rather than obstructs rational deliberation; without habit reason is disempowered (Kilpinen, 1999, 2000).

Turning to instincts, these are inherited behavioral dispositions that, when triggered, give rise to reflexes, urges or emotions. Instincts are not fixed behaviors; they are dispositions that can often be suppressed or diverted. There is clear evidence for some human instincts.

Newborn babies inherit the means of recognition and imitation of some vocal sounds, as well as some elemental understanding of linguistic structure (Pinker, 1994). Although the development of language is impossible without extensive social interaction (Brown, 1973), it is also impossible without priming instincts. There are also instinctive reflexes to clutch, suckle, and much else.

The Darwinian doctrine of continuity has the following consequences for our understanding of instincts and habits. In the evolution of the human species, there was no cause or possibility for evolution to dispense with habits and instincts once human reasoning emerged. It built upon them, just as human bipedal physiology built upon the modified skeletal topology of a quadruped. Earlier structures and processes, having proved their evolutionary success, are likely to be built upon rather than removed. Hence earlier evolutionary forms can retain their use and presence within the organism. They will do this when they form the building blocks of complex further developments. That being the case, we retain instincts and unconscious mental processes that can function independently of our conscious reasoning. As some animal species developed more complex instincts, they eventually acquired the capacity to register fortuitous and reinforced behaviors through the evolution of mechanisms of habituation. In turn, upon these mechanisms, humans built culture and language. Our layered mind, with its unconscious lower strata, maps our long evolution from less deliberative organisms. Consistent with the evolutionary doctrine of continuity, habits and instincts are highly functional evolutionary survivals of our pre-human past.

Just as the evolution of the human species involved the layering of habit upon instinct, and deliberation upon habit and instinct, the development of a human infant likewise involves a progression from largely instinctive behavior, through behavior that depends more on habituation, to behavior guided by reason. But as each higher level emerges, it relies on the earlier and more fundamental mechanisms. Habit and instinct remain essential.

At birth, the removal of all instincts would result in the tragic absurdity of a newborn with no guidance in its interaction with the world. Lacking any goal or impulse, it would be overwhelmed by sensory stimuli, but with no disposition for selective attention. The infant could do little else but engage in a random and directionless search through effectively meaningless sensations. If the newborn mind was like a blank slate, then the infant would have inadequate means of structuring its interaction with the world or of learning from experience, and the slate would remain void.

Instincts are aroused by circumstances and specific sensory inputs. Particular circumstances can trigger inherited instincts such as fear, imitation or sexual arousal. It is beyond the point to argue that acquired habit or socialization are much more important than instinct. Emphatically, many of our dispositions and much of our personality are formed after birth. But the importance of socialization does not deny the necessary role of instinct. Both instinct and habit are essential for individual development. Inherited dispositions are necessary for socialization to begin its work. Obversely, much instinct can hardly manifest itself without the help of culture and socialization. Instinctive behavior and socialization are not always rivals but often complements: they interact with one another. The degree to which we are affected by our social circumstances is immense, but that is no ground for the banishment of the concept of instinct from social theory.

Habit has both ontogenetic and phylogenetic priority over reason, and instinct has both ontogenetic and phylogenetic priority over habit. Furthermore, while the human species evolved its capacity to reason, it dependence on instinct and habit did not decline. Darwin (1871, vol. 1, p. 37) himself wrote: ‘Cuvier maintained that instinct and intelligence stand in

an inverse ratio to each other; and some have thought that the intellectual facilities of the higher animals have been gradually developed from their instincts. But … no such inverse ratio really exists.'

In contrast, Émile Durkheim (1984, pp. 262, 284) wrote in 1893 that: 'It is indeed proven that intelligence and instinct always vary in inverse proportion to each other … the advance of consciousness is inversely proportional to that of the instinct.' As the social sciences broke from biology in the interwar period, this false antithesis between intelligence and instinct became commonplace in twentieth century social science.

Others were much closer to Darwin on this question. For example, the economist John Hobson (1914, p. 356) proposed 'to break down the abruptness of the contrast between reason and instinct and to recognise in reason itself the subtlest play of the creative instinct.' Similarly, the sociologist Charles Horton Cooley (1922, p. 30) also emphasised that reason 'does not supplant instinct' and 'reason itself is an instinctive disposition … to compare, combine, and organize the activities of the mind.' As noted below, the position of Veblen was also similar to Darwin in this respect.

2. Thorstein Veblen

Contrary to some accounts, Veblen did not see human agency as entirely determined by culture or institutions. Veblen neither denied nor underestimated the significance of human intentionality, but saw it as a result of evolution. He saw intentions as based on habits and instincts that were products of social and human evolution. He retained the idea that persons were purposeful, but Veblen (1898b, pp. 188-93) placed this proposition within an evolutionary framework:

> Like other species, [man] is a creature of habit and propensity. But in a higher degree than other species, man mentally digests the content of habits under whose guidance he acts, and appreciates the trend of these habits and propensities. ... By selective necessity he is endowed with a proclivity for purposeful action. ... He acts under the guidance of propensities which have been imposed upon him by the process of selection to which he owes his differentiation from other species.

Hence Veblen followed Darwin and regarded human intentionality as a capacity that had itself evolved through natural selection. As Veblen (1899, p. 15) put it in another work, the capacity of humankind to act with deliberation towards ends was itself a result of natural selection:

> As a matter of selective necessity, man is an agent. He is, in his own apprehension, a centre of unfolding impulsive activity – 'teleological' activity. He is an agent seeking in every act the accomplishment of some concrete, objective, impersonal end.

Despite this, Veblen is widely misunderstood as underestimating the actuality or significance of human intentionality and purposefulness. On the contrary, Veblen (1898a, p. 391) insisted: 'Economic action is teleological, in the sense that men always and everywhere seek to do something.' The fact that such purposeful behavior itself emerged through evolutionary selection does not mean a denial of the reality of purposeful behavior. Instead, Veblen consistently tried to reconcile a notion of individual purposefulness (or sufficient reason) with his materialist idea of causality (or efficient cause).

Like Darwin, Huxley and others, Veblen rejected a dualist or Cartesian ontology that separated intentionality completely from matter and materialist causality. Veblen (1909, pp. 624-5) saw such a dualism as unacceptable for the following reason:

> The two methods of inference – from sufficient reason [or intention] and from efficient [or materialist] cause – are out of touch with one another and there is no transition from one to the other: no method of converting the procedure or the results of the one into those of the other.

Following Darwin, Veblen placed human intentionality in an evolutionary context. At least in principle, consciousness had to be explained in Darwinian and evolutionary terms. As Veblen (1906, p. 589) put it: 'While knowledge is construed in teleological terms, in terms of personal interest and attention, this teleological aptitude is itself reducible to a product of unteleological natural selection.' Veblen (1909, p. 625) similarly acknowledged 'that the relation of sufficient reason enters very substantially into human conduct. It is this element of discriminating forethought that distinguishes human conduct from brute behavior.' Veblen (1909, p. 626) then went on to regard 'the relation of sufficient reason as a proximate, supplementary, or intermediate ground, subsidiary, and subservient to the argument from cause to effect.'

In sum, while human intentionality is real and consequential, and a necessary element in any causal explanation in the social sciences, intentions themselves had at some time to be explained. As Veblen (1909, p. 626) put it, explanation could not be confined to the 'rationalistic, teleological terms of calculation and choice' because the psychological beliefs and mechanisms that lay behind deliberation and preferences had also to be explained in terms of a 'sequence of cause and effect, by force of such elements as habituation and conventional requirements.' By acknowledging the need for such causal explanations, Veblen rejected both the assumption of the given individual in neoclassical economics and the opposite error of regarding human agency as entirely an outcome of mysterious social forces.

Veblen inherited principally from James (1890) an emphasis on the role of both habit and instinct in human thought and action.[4] In his *Theory of the Leisure Class* Veblen articulated a relationship between human biological instincts and socio-economic evolution. The Darwinian imperative of survival means than the human individual has particular traits, the most 'ancient and ingrained' of which are 'those habits that touch on his existence as an organism' (Veblen, 1899, p. 107). In addition: 'With the exception of the instinct of self-preservation, the propensity for emulation is probably the strongest and most alert and persistent of the economic motives proper' (p. 110). On such assumptions concerning human nature, Veblen (1899) built his account of the process of status emulation in modern society.

Veblen's most extensive treatment of the concepts of instinct and habit is in his *Instinct of Workmanship*. There Veblen (1914, pp. 2-3) argued that an 'inquiry into institutions will address itself to the growth of habits and conventions, as conditioned by the material environment and by the innate and persistent propensities of human nature'. He continued: 'for these propensities, as they take effect in the give and take of cultural growth, no better designation than the time-worn 'instinct' is available.' Veblen (1914, p. 13) upheld that 'instincts are hereditary traits.' Throughout his writings, Veblen generally saw instinct as an

[4] Elsewhere, however, I consider some cases where Veblen over-extended the explanatory role of instinct in the social domain (Hodgson, 2004a).

'innate and persistent' propensity. He distinguished it from habit, which is a propensity that is molded by environmental circumstances.

However, for Veblen, instincts were not mere impulses. All instincts involve intelligence, and the manifestation of many instincts means the presence of an intention behind the act. As Veblen (1914, pp. 3, 32) insisted: 'Instinctive action is teleological, consciously so … All instinctive action is intelligent and teleological.' He regarded instincts as consciously directed towards ends and as part of the apparatus of reason. Veblen (1914, pp. 5-6) wrote:

> The ends of life, then, the purposes to be achieved, are assigned by man's instinctive proclivities; but the ways and means of accomplishing those things which the instinctive proclivities so make worth while are a matter of intelligence. It is a distinctive mark of mankind that the working-out of the instinctive proclivities of the race is guided by intelligence to a degree not approached by other animals. But the dependence of the race on its endowment of instincts is no less absolute for this intervention of intelligence; since it is only by the prompting of instinct that reflection and deliberation come to be so employed, and since instinct also governs the scope and method of intelligence in all this employment of it.

However, some of Veblen's formulations on instinct have caused confusion. On the one hand, Veblen (1914, pp. 2-3, 13) stated that instincts were 'innate and persistent … propensities' and 'hereditary traits.' On the other hand, a few pages later, Veblen (p. 38) wrote that: 'All instinctive behavior is subject to development and hence to modification by habit.' Several authors have seized on this latter sentence as evidence that by instinct Veblen did not mean fixed and inherited dispositions. Instead, he here seemed to suggest that an individual's instincts could be altered by individual's development and environment. This would seem to contradict the earlier statement in the same work that instincts were 'innate and persistent'.

But the contradiction disappears when it is realized that in the first passage (pp. 2-3) Veblen refers to 'instinct' and in the latter (p. 38) he refers to 'instinctive behavior'. The instincts of an individual cannot be changed; but 'instinctive behavior' can. Behavior promoted by instincts can be modified or repressed, through constraints, countervailing habits or will. The sexual instinct, for example, is biologically inherited and innate, but can take a variety of behavioral forms, depending on cultural and other influences. There is no passage in Veblen's writing that shows unambiguously that he departed from the idea that instincts were 'innate and persistent … hereditary traits'.

Veblen retained a necessary place for both instinct and habit – nature and nurture – in his explanation of human behavior. Human deliberation and habits of thought are shaped by the social culture. But 'it is only by the prompting of instinct' that human cognition and deliberation come into play. Instincts help to spur emotions that drive many of our actions and deliberations. Veblen saw instincts as not only the basis of human purposes and preferences, but also as the primary drives and prompts of intelligent deliberation and action. Instincts focus activity on specific ends, and help to shape the means of their pursuit. Inherited nature is necessary for nurture to function. Nature and nurture are not rivals but complements.

But if instinct can bear such a burden, what is to stop natural selection eventually creating sophisticatedly programmed instincts that are sufficiently flexible to deal with most circumstances? If instincts are so powerful, why do they not evolve to provide the complete apparatus of human cognition and action? If this happened, then no major role would be left for habits, as instincts would be sufficient for survival. In addressing these important questions, Veblen (1914, p. 6) argued that instincts on their own were too blunt or vague as instruments to deal with the more rapidly evolving exigencies of the human condition. Habits,

being more adaptable than instincts, are necessary to deal with 'the larger body of knowledge in any given community' and the 'elaborate … ways and means interposed between these impulses and their realisation'. With intelligent organisms dealing with complex circumstances, instincts remain vital, but the modificatory power of habits becomes relatively more important. The social and natural environment is too inconstant to allow the natural selection of sufficiently complex and refined instincts to take place. Habits are acquired, additional and necessary means for instinctive proclivities to be pursued in a changing social and natural environment. As Veblen (pp. 6-7) put it:

> The apparatus of ways and means available for the pursuit of whatever may be worth seeking is, substantially all, a matter of tradition out of the past, a legacy of habits of thought accumulated through the experience of past generations. So that the manner, and in a great degree the measure, in which the instinctive ends of life are worked out under any given cultural situation is somewhat closely conditioned by these elements of habit, which so fall into shape as an accepted scheme of life. The instinctive proclivities are essentially simple and look directly to the attainment of some concrete objective end; but in detail the ends so sought are many and diverse, and the ways and means by which they may be sought are similarly diverse and various, involving endless recourse to expedients, adaptations, and concessive adjustment between several proclivities …

Instincts are 'essentially simple' and directed to 'some concrete objective end'. Habits are the means by which the pursuit of these ends could be adapted in particular circumstances. In comparison to instinct, habit is a relatively flexible means of adapting to complexity, disturbance and unpredictable change.

Veblen saw habits, like instincts, as essential for conscious deliberation. Habit is not opposed to reason but part of the act of deliberation itself. In turn, the habit-driven capacity to reason and reflect upon the situation could give rise to new behaviors and new habits. Habits and reason can interact with one another in an ongoing process of adaptation to a changing environment. This capacity to form new habits, aided by both instincts and reason, has helped to enhance the fitness of the human species in the process of natural selection.

Veblen explained how processes of habituation give rise to 'proximate ends' in addition to any 'ulterior purpose' driven by instinct. He gave the example of the habit of money acquisition in a pecuniary culture. Money – a means – becomes an end in itself; and the pursuit of money becomes a cultural norm. But pecuniary motives are not innate to humankind: they are culturally formed. Veblen (1914, p. 7) then began to elaborate how habits, acquired anew by each individual, could in effect be transmitted from generation to generation, without any assumption of acquired character inheritance at the individual level:

> Under the discipline of habituation this logic and apparatus of ways and means falls into conventional lines, acquires the consistency of custom and prescription, and so takes on an institutional character and force. The accustomed ways of doing and thinking not only become an habitual matter of course … but they come likewise to be sanctioned by social convention, and so become right and proper and give rise to principles of conduct. By use and wont they are incorporated into the current scheme of common sense.

Veblen (1899, p. 246) had written earlier that 'the scheme of life, of conventions, acts selectively and by education to shape the human material'. Similarly, Veblen (1914, pp. 38-9) explained that 'the habitual acquirements of the race are handed on from one generation to the next, by tradition, training, education, or whatever general term may best designate that discipline of habituation by which the young acquire what the old have learned.' He saw conventions, customs and institutions as repositories of social knowledge. Institutional

adaptations and behavioral norms were stored in individual habits and could be passed on by education or imitation to succeeding generations. He thus acknowledged processes of 'dual inheritance' or 'coevolution' (to use modern terms) where there was evolution at both the instinctive and the cultural levels, with their different means of transmission through time.[5]

Hence Veblen did not take habits or instincts as given but placed them within an evolutionary framework, where natural selection acted on human instincts and – at a faster rate – habits were themselves selected in a changing environment. Veblen (1899, p. 188) thus wrote of the 'natural selection of the fittest habits of thought' involving an interaction between 'individuals' and 'changing institutions' which were 'themselves the result of a selective and adaptive process'.

Veblen (1914, p. 39) wrote: 'handed on by the same discipline of habituation, goes a cumulative body of knowledge.' Veblen (p. 53) also emphasized that habits were the mechanisms through which the individual was able to perceive and understand the world: 'All facts of observation are necessarily seen in the light of the observer's habits of thought'. In other words, habits of thought are essential to cognition. Habits are acquired through socialization and provide a mechanism by which institutional norms and conventions are pressed upon the individual (Hodgson, 2003, 2004a; Hodgson and Knudsen, 2004).

But Veblen was not a behaviorist. Veblen (1900, pp. 246-7) noted the 'modern catchword' of 'response to stimulus' but pointed out that 'the reaction to stimulus' is conditioned also by 'the constitution of the organism' which 'in greater part decides what will serve as a stimulus, as well as what the manner and direction of the response will be.' This passage clearly demarcates Veblen from behaviorist psychology, where the stimulus itself is seen as sufficient to condition a response. In contrast, Veblen saw the human agent as discretionary, with 'a self-directing and selective attention in meeting the complex of forces that make up its environment.' For Veblen, as with James, part of this discretionary and selective capacity was molded by habits and instincts.

From the acquisition of language to elemental acts of imitation and socialization, the primary thoughts and behaviors that begin to form habits require instinctive impulses for their initialization. These instincts and habits power our emotional drives. We are riven with dispositions and preconceptions: some inherited, some acquired. These dispositions and preconceptions do not entirely determine our thoughts and actions, but they create the reactive mechanisms leading to possible behavioral outcomes.

Veblen emphasized the *double weight of the past* on human deliberation and decision-making. First, the natural selection of instincts over hundreds of thousands of years has provided humans with a set of basic dispositions, albeit with substantial 'variations of individuality' (Veblen, 1914, p. 13) from person to person. The newborn infant comes into the world with these fixed and inherited propensities. But, second, the world of the child is one of specific customs and institutions into which he or she must be socialized. The individual learns to adapt to these circumstances, and through repeated action acquires culturally specific habits of thought and behavior. These customs and institutions have also evolved through time; they are the weight of the past at the social level. The weight of instinct results from the phylogenetic evolution of the human population. Habituation is the mechanism through which

[5] See Boyd and Richerson (1985) and Durham (1991).

the weight of social institutions can make its mark on the ontogenetic development of each individual.[6]

In Veblen's writings, the term 'habit' suggests a propensity or disposition, not behaviour as such. Veblen often coupled the words 'habit and propensity' or 'propensities and habits' together. Looking at the context here, Veblen meant that habit is also a propensity, alongside other propensities, such as instincts. But perhaps the most decisive passages on this question are the following. Veblen (1898a, p. 390) wrote of 'a coherent structure of propensities and habits which seeks realization and expression in an unfolding activity'. Here habit is tied in with other propensities and 'seeks realization', suggesting that habit itself is a disposition, rather than behaviour. Even more clearly, Veblen (1898b, p. 188) remarked that 'man mentally digests the content of habits under whose guidance he acts, and appreciates the trend of these habits and propensities.' Here habits are not actions, but the dispositions that guide them.

Veblen's usage was consistent with the pragmatist philosophers and instinct psychologists, who saw habit as an acquired proclivity or capacity, which may or may not be actually expressed in current behavior. Repeated behavior is important in establishing a habit. But habit and behavior are not the same. If we acquire a habit we do not necessarily use it all the time. It is a *propensity* to behave in a particular way in a particular class of situations.

Many thinkers have difficulty accepting the idea of habit as a disposition. They prefer to define habit as behavior. A source of the problem is a reluctance to remove reason and belief from the driving seat of human action. The 'mind-first' conception of action pervades social science. If habits affect behavior then it is wrongly feared that reason and belief will be dethroned. However, from a pragmatist perspective, reasons and beliefs themselves depend upon habits of thought. Habits act as filters of experience and the foundations of intuition and interpretation. Habit is the grounding of both reflective and non-reflective behavior. But this does not make belief, reason or will any less important or real.

Veblen adopted a pragmatist theory of action in which activity and habit formation precede rational deliberation. For the pragmatist, activity itself does not require reason or deliberation; we only have to consider the habitual or instinctive behavior of non-human animals to establish this truth. According to the Darwinian principle of continuity, but contrary to much of twentieth century social science, the uniqueness of humanity does not lie in any relegation of instinct or habit, but in the critical supplementary deployment of conscious rational deliberation when a striking problem or novel situation demands it. Reasons and intentions emerge in continuous process of interaction with the world, while we are always driven by habits and other dispositions. As Veblen (1919, p. 15) explained:

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[6] As a representative critic, Khalil (1995, pp. 555-6) asserted: 'Inspired by Veblen's legacy, old institutional economists generally tend to view the preferences of agents as, in the final analysis, determined by cultural norms.' This may be true of some old institutionalists, but it was not true of Veblen (1909, p. 629) who insisted that social science must 'formulate its theoretical results in terms of individual conduct'. From an evolutionary perspective, as Veblen understood well, there is no 'final analysis'. Despite its subtitle, Khalil's (1995) article is essentially about neither Veblen nor his true legacy, but about versions of institutionalism that became prominent in America after Veblen's death. Neither do I accept Khalil's (2003a, p. 117; 2003b, p. 170) characterization of Veblen's (and my own) position as 'normative' and 'self-actional' in the sense that Veblen (or myself) made no attempt to explain the origin of behavioral drives, thus treating them as 'immanently conceived'. The whole point of the evolutionary approach adopted by Veblen is to explain the origins as well as the effects of instinctive and habitual drives. Khalil wrongly lumps Veblen with those sociologists who have made norms or structures do most of the explanatory work.

> History teaches that men, taken collectively, learn by habituation rather than precept and reflection; particularly as touches those underlying principles of truth and validity on which the effectual scheme of law and custom finally rests.

Reason is intimately connected with doing, because activity is the stimulus for habits of thought, and because reason and intelligence are deployed to guide action through problems and difficulties. Intelligence is 'the selective effect of inhibitive complication' (Veblen, 1906, p. 589). In less cryptic words, deliberation and reason are deployed to make a choice when habits conflict, or are insufficient to deal with the complex situation. In turn, these particular patterns of reason and deliberation themselves begin to become habituated, so that when we face a similar situation again, we may have learned to deal with more effectively. Reason does not and cannot overturn habit; it must make use of it to form new habits. Veblen (1906, p. 588) wrote that 'knowledge is inchoate action inchoately directed to an end; that all knowledge is "functional"; that it is of the nature of use.' Knowledge is an adaptation to a problem situation; it stems from and assists activity (Daugert, 1950, pp. 35-6).

Instinct is prior to habit, habit is prior to belief, and belief is prior to reason. That is the order in which they have evolved in our human ancestry over millions of years. That too is the order in which they appear in the ontogenetic development of each human individual. The capacity for belief and reason develops on a foundation of acquired instinctive and habitual dispositions. That too is the order in which they are arranged in a hierarchy of functional dependence, where the current operation of reason depends upon belief, belief depends upon habit, and habit depends upon instinct. Lower elements in the hierarchy do not entirely determine the higher functions, but they impel them into their being, where they are formed in their respective natural and social context. The lower elements are necessary but not sufficient for the higher.

Accordingly, Veblen (1914, p. 30 n.) recognized 'that intellectual functions themselves take effect only on the initiative of the instinctive dispositions and under their surveillance'. By adopting this view, the false 'antithesis between instinct and intelligence will consequently fall away.' Veblen saw Darwinism as implying that habit and instinct were the basis of motivation; they impelled and dominated any rational calculation of individual interests or objectives.

3. John Dewey

Veblen, Dewey, James and Peirce were a group of American intellectuals profoundly influenced by Darwinism, although their interpretations and uses of this doctrine differ in some respects (Wiener, 1949). Dewey moved from his earlier Hegelian idealism to become a leading philosopher of pragmatism.

Like James and Veblen, Dewey understood Darwinism as involving a commitment to causal explanation. Dewey (1894, pp. 338-9) thus responded to the proposition of an uncaused ego with the insistence that 'it becomes necessary to find a cause for this preference of one alternative over the other.' He continued: 'when I am told that freedom consists in the ability of an independent ego to choose between alternatives, and that the reference to the *ego* meets the scientific demand with reference to the principle of causation, I feel as if I were being gratuitously fooled with.' For Dewey, in full Darwinian spirit, the need for causal explanation could not be abandoned.

From a Darwinian philosophical perspective, all outcomes have to be explained in a linked causal process. There is no teleology or goal in nature. Everything must submit to a causal explanation in scientific terms. In his prescient essay on the impact of Darwinism on philosophy, John Dewey (1910a, p. 15) wrote: 'Interest shifts ... from an intelligence that shaped things once for all to the particular intelligences which things are even now shaping'. Instead of God creating everything, the Darwinian focus is on how everything, including human intelligence and intentionality, was created through evolution. Intentionality is still active and meaningful, but it too has evolved over millions of years.

In this manner, Dewey abandoned idealist or dualist conceptions of mind. Instead he adopted a naturalistic and Darwinian approach where knowledge is considered as an adaptive human response to problems posed by the social and natural environment. Instead of regarding knowledge as a reflection or representation of reality in thought, Dewey saw knowledge as a mental outcome of the ongoing interaction between humans and their environment. Knowledge, furthermore, was instrumental to the life-process and survival.

His naturalistic turn was clear in his famous essay on the 'the reflex arc concept'. There Dewey (1896) argued that knowledge could not result simply from the passive reception of sense-data, causing a conscious act of awareness and an eventual response. For Dewey (1896, pp. 357-8), this view was causally incomplete and inherited faults from mind-body dualism: 'the older dualism of body and soul finds a distinct echo in the current dualism of stimulus and response.' Instead, he argued for a more interactive conception, where knowledge arises from physical interaction with the world. Active manipulation of the environment is necessarily involved in the process of learning and knowledge acquisition.

This essay also provided a critique of one of the assumptions that would later be central to behaviorist psychology. For Dewey, the stimulus-response mechanism was flawed because stimuli are not given data. The actions and dispositions of the agent are necessary to perceive the stimulus. Stimulus and response cannot be separated, because action is necessary to obtain a stimulus, and the response invokes further stimuli. Hence 'the distinction of sensation and movement as stimulus and response respectively is not a distinction which can be regarded as descriptive of anything which holds of psychical events or existences as such' (Dewey, 1896, p. 369). Veblen (1900, pp. 246-7) replicated part of this argument with approval, but without mentioning Dewey by name. Dewey developed his naturalist viewpoint in his *Studies in Logical Theory* (1903), acknowledging the strong influence of James. Dewey (1903, p. x) argued that

> since the act of knowing is intimately and indissolubly connected with the like yet diverse functions of affection, appreciation, and practice, it only distorts results reached to treat knowing as a self-enclosed and self-explanatory whole … since knowledge appears as a function within experience, and it passes judgment upon the processes and contents of other functions, its work and aim must be distinctively reconstructive or transformatory …

Accordingly, Dewey saw knowledge as part of a psychologically- and naturally-grounded process. A key moment is the emergence of a problematic situation, when our habitual responses to environmental cues are challenged because they are inadequate for ongoing activity. In such circumstances we have to seek some new pattern of action in response to the challenge. He stressed in his *Studies* and subsequent writings that the uncertainty that arises in such a problematic situation is not principally cognitive, but also practical and existential. He recognized 'a level of feeling which does not involve consciousness in any cognitive sense of

the term' (Tiles, 1988, p. 43). Cognitive elements enter into the process as a response to engagement with the problem.

In the reflective phase of the process, ideas or suppositions are consciously entertained as part of possible solutions to the difficulty. But such reflection is not separate from feeling, as it too involves emotional excitation. The test of its hypothetical solutions is in practice. If they are effective, and fluid activity is restored, then these cognitive elements themselves become rooted in further habits or dispositions.

Dewey wished to avoid the dualistic mistake of regarding the cognitive response as prior to, or separate from, the instinctive or habit-driven responses to the situation. He thus broke with the tradition in epistemology of isolating the reflective stage of the process, as a primary activity of a conscious mind in search of knowledge. Furthermore, he rejected the foundationalist view that knowledge can be based on some primary solid grounding, such as sense data or reason. Instead, for Dewey, knowledge was the upshot of an ongoing process of adaptation to changing experiences. Knowledge is a means for gaining control over our environment and bettering our condition. In this schema, all knowledge was provisional, and contingent upon its instrumentality for human action.

In his *Human Nature and Conduct*, Dewey (1922) elaborated on the role of habit in this process. Consistently with James and Veblen, Dewey (p. 42) explained the nature of habit in the following terms: 'The essence of habit is an acquired predisposition to *ways* or modes of response.' The use of habit is largely unconscious. Habits are submerged repertoires of potential behavior; they can be triggered or reinforced by an appropriate stimulus or context. In a manner consistent with his preceding work, he saw the formation of habit as the temporal precursor and basis of rational deliberation. Dewey (p. 30) remarked that the 'formation of ideas as well as their execution depends upon habit.' In this pragmatist view, habit supports rather than obstructs rational deliberation; without habit reason is impossible (Kilpinen, 1999, 2000).

However, *Human Nature and Conduct* was written at a time when the concept of instinct was coming under attack within the scientific community. John B. Watson (1914, 1919) announced the new behaviorist psychology, arguing on the basis of animal experiments that environmental conditioning was primary and instinct a secondary concept. By 1919 'what had been … a sort of rebellious sideshow among the academic psychologists took on the dimensions of an intellectual revolution' (Kallen, 1930, p. 497). Eventually, Watson and other behaviorists entirely abandoned the concept of instinct. The attack became so severe that eventually some rejected the notion of any inherited dispositions. The behaviorists alleged that consciousness, intention, sensation and introspection were 'unscientific' concepts because they could not be observed directly. They promoted a positivist vision of science and concentrated instead on empirically manifest behavior. They disregarded everything that could not be directly measured and tested by experiment as unscientific.

Dewey was not the only writer to be affected by this tide of opinion.[7] Dewey (1922, p. 104) expressed some reluctance in using the term 'instinct' and generally switched to the word 'impulse' instead. Where Dewey (1922, pp. 106-9) retained the term 'instinct' he gave it an unclear meaning, even suggesting in one passage that human instincts could change more rapidly than social customs or institutions. At the same time, his concept of habit was

[7] In Hodgson (2004a) I argue that from the 1920s, with the exception of Veblen and very few others, the rise of behaviorist psychology profoundly affected the entire movement in institutional economics.

broadened to take up many of the roles that instinct psychologists had previously accorded to instincts. In response, the psychologist William McDougall (1924) argued convincingly that instincts were still essential to Dewey's own argument, and should not be abandoned. Despite this shift in his position, Dewey maintained that inherited or acquired 'impulses', including learned habits, were prior to and necessary for deliberative reason.

Throughout his long career, he defended and refined the idea in his *Studies* (1903) that knowledge was part of a process of acquiring capabilities to interact with the world. While his thought went through several phases, this core idea remained. His view remained of knowledge as an adaptation to circumstances, and inquiry as 'a process of progressive and cumulative re-organization of antecedent conditions' (Dewey, 1938, p. 246). The volume he co-authored with Arthur F. Bentley, *Knowing and the Known* (1949), represents a mature statement of this position.

However, the biological and psychological dispositions and mechanisms behind adaptive or inquiring behavior progressively disappeared from view. The rapidly waning popularity of Jamesian instinct-habit psychology after the First World War made it difficult for Dewey to sustain or develop the original psychological parameters of his argument concerning knowledge. In his *Logic*, Dewey (1938, p. 143) still wrote of knowledge as 'mediated through certain organic mechanisms of retention and habit' but neither 'instinct' or 'impulse' appear in the index of that work. In *Knowing and the Known*, not only is the concept of instinct absent, but also habit plays an insignificant role. Well before 1949, Dewey had seemingly abandoned instinct-habit psychology.

Pragmatist philosophy also suffered a decline in popularity, particularly after the rise of logical positivism in the 1930s. The situation is very different today, however. The concept of instinct is now re-established in psychology (Degler, 1991; Plotkin, 1994) and pragmatism has eventually re-emerged to become 'if not the most influential, at least one of the fastest growing philosophical frameworks on the intellectual landscape' (Hands, 2001, p. 214). This makes Dewey's contribution especially relevant today.

However, the interpretation of Dewey is not all plain sailing. Elias Khalil (2003a, 2003b) has proposed that the 'transactional' theory of action that Dewey developed in the 1930s and 1940s involves the transcendence of the duality between subject and object, whereas Darwinism is defective in this regard. He thus suggests a tension between the (Darwinian) early Dewey, and Dewey after 1930. It is beyond the scope of this essay to establish whether not such a contradiction exists in Dewey's work. I simply point to the danger of conflating subject and object (or structure). Such a conflation is evidenced in a tradition of writers, from Cooley (1922) to Anthony Giddens (1984), who both described actor and structure as aspects of a single process. Such a conflation is undermined by the fact that the external world (including human society) must exist before any human individual. This observation – made by Auguste Comte, Karl Marx, George Henry Lewes and many others long ago – undermines the symmetry and conflation of actor and structure, and points to processual, morphogenetic or evolutionary modes of theorizing (Archer, 1995; Hodgson, 2004a). If Dewey did indeed abandon these Darwinian insights then this would be evidence for some regress, rather than unambiguous progress, in his thought.

4. Friedrich Hayek

Born more than 40 years after Dewey and Veblen, and brought up in Europe rather than America, Hayek came from a very different intellectual environment, in both time and space.

Much of his work was accomplished in the period from the 1920s to the 1960s, when behaviorist psychology was in the ascendant, the concept of instinct was out of favor, and the importation of evolutionary ideas from biology into the social sciences was unpopular. Despite this, he developed an early critique of behaviorism in his *Sensory Order* (1952), when behaviorism in some quarters was at its apogee.

Both Hayek and Dewey died in their ninety-third year, each leaving a huge corpus of work, manifesting several distinct phases of intellectual development. In the case of Dewey, the influence of Darwinism reached its zenith in his early writings. In the case of Hayek, the connection with evolutionary biology became strongest in his mature works, from 1958 until 1988. Despite Hayek's (1942, p. 269) earlier critique of 'slavish imitation of the method and language' of the natural sciences, in his later works Hayek (1958, 1960, 1967) began to apply Darwinian ideas to social evolution, noting both similarities and differences with biological evolution.

The central concept in Hayek's mature theory of social evolution is that of a *rule*. Hayek (1973, p. 11) wrote: 'Man is as much a rule-following animal as a purpose-seeking one.' Although Hayek makes occasional reference to the concepts of habit and instinct – his treatment of which I shall discuss below – the pre-eminent concept of 'rule' in his mature work often acts as a surrogate or substitute for these psychological conceptions. Hayek (1967, pp. 66-7) wrote:

> it should be clearly understood that the term 'rule' is used for a statement by which a regularity of the conduct of individuals can be described, irrespective of whether such a rule is 'known' to the individuals in any other sense than they normally act in accordance with it.

Hayek (1979, pp. 159-60) went on to explore the varied origins and 'layers of rules' in human society. The lowest layer consisted of rules derived from the 'little changing foundation of genetically inherited, "instinctive" drives'. Higher layers involved rules that were not deliberately chosen or designed but had evolved in society, and rules that were consciously designed and inaugurated. For Hayek, therefore, a rule is any behavioral disposition, including instincts and habits, which can lead to 'a regularity of the conduct of individuals'.

Despite his longstanding opposition to behaviorism, Hayek's definition of a rule has some behaviorist features. While behaviorism eschewed matters of consciousness and intent, Hayek generally neglected matters of conscious knowledge of, or intent in following, any rule. Roland Kley (1994, p. 44) has rightly criticized Hayek's inclusion of instincts in his overly broad definition of a rule:

> Hayek flatly equates rule-following with behavioural regularity ... Such a conception of rule-following is far too broad. It commits Hayek, for example, to regard all regular bodily functions as resulting from the observance of rules. But obviously the pulsation of the heart or regular eyelid movements are not instances of rule-following.

This focus on the broadly-defined rule as such, rather than its origin or impetus, was the starting point for Hayek's theory of social evolution. Accordingly, Hayek neglected the grounding of such 'rules' in habits or instincts. Instead, in a series of works Hayek (1958, 1960, 1967, 1973, 1979, 1988) progressively developed an explanation of the selection of social rules through the selection of the fitter social groups. For Hayek (1973, p. 9) institutions and practices, which had first 'been adopted for other reasons, or even purely accidentally, were preserved because they enable the group in which they had arisen to prevail over others.'

The further details of this evolutionary account need not concern us here, as we are primarily concerned with Hayek's treatment of instinct and habit, and their relation to deliberation and reason. But we should already be alerted to the problem that his account lacks an adequate explanation of the origin and impetus behind rules themselves. Because he lacked such a causal story, his explanation is insufficiently Darwinian.

What sustains the rule and gives it some durability through time? Hayek did not give us a sufficiently clear answer, but in discussing the process of cultural transmission he put emphasis on the role of imitation (Hayek, 1967, pp. 46-8; 1979, pp. 155-7; 1988, pp. 21, 24). This might help to explain how behavioral regularities are reproduced but we still lack a causal explanation of imitation and rule-following itself. What are the mechanisms involved in the genesis of action: the transformation of a rule into an act? Hayek (1967, p. 69) wrote vaguely of the 'external stimulus' and the 'internal drive', without giving us much more to go on. There is another unfilled gap in his theory. Hayek did not emphasize the instinctive foundation of imitative capacities.

Hayek argued that the possibility of rule replication through imitation accounts for the much faster rate of cultural evolution, compared with the sluggish biotic processes of genetic change and selection. Genetic evolution, Hayek (1988, p. 16) rightly argued, is 'far too slow' to account for the rapid development of civilization. Instead, new practices were spread by imitation and acquired habit. This is a valid argument concerning the nature of cultural evolution but it still does not provide us with an adequate causal story.

Turning specifically to Hayek's conception of instinct, the term is not prominent in his work. Even his overtly psychological volume, *The Sensory Order*, has a developed theory of neither instinct nor habit. Hayek therein wrote occasionally of impulses, and referred briefly to the work of James, but he did not discuss at length the nature, origin and replication of the mental dispositions that frame and connect incoming neural stimuli. He was more concerned to show that the physical and the neural orders in the brain are not isomorphic, and thus the mental could not be reduced to the physical. Hayek (1952, p. 53) wrote of 'physiological memory' as being the means by which 'the physiological impulses are converted into sensations. The connexions between the physiological elements are thus the primary phenomenon which creates the mental phenomena.' The ultimate purpose of the argument, while rejecting dualism as such, was to establish 'that for practical purposes we shall always have to adopt a dualistic view', consequently 'we shall never be able to bridge the gap between physical and mental phenomena' (Hayek, p. 179). Despite the far-sighted and prescient character of this work, it essentially protected a dualism 'for practical purposes' from the behaviorist reduction of mind to behavior.[8]

Even as Hayek developed his evolutionary account of social change, the concept of instinct did not become prominent because it was subsumed under his overly copious concept of rule. Hayek (1960, pp. 40, 60; 1988, p. 17) described some instincts in negative terms, as 'ferocious' or 'beastly', and as 'more adapted to the life of a hunter than to life in civilization'. Hayek (1979, p. 165; 1988, p. 12) also wrote of 'instincts of solidarity and altruism' linked to a 'yearning for egalitarianism and collectivism' appropriate for the solidaristic small groups in hunter-gather societies.

[8] There is one reference to Dewey in Hayek's (1952, p, 176) work, where he mistakenly attributes to James and Dewey a view that sensations are the 'ultimate constituents of the world'.

This normative treatment of instincts is used to support predictably Hayekian normative conclusions. Hayek (1979, p. 161; 1988, pp. 16-17) argued that 'practically all advance had to be achieved by infringing or repressing some of the innate rules and replacing them by new ones which made the co-ordination of larger groups possible' and this 'gradual replacement of innate responses by learnt rules increasingly distinguished man from other animals'. In the group of undesirable impulses requiring repression, Hayek includes not only our allegedly instinctive beastliness and ferocity, but also our '*atavistic*' instincts for 'egalitarianism and collectivism', which he deems unsuited for modern, complex, civilized society. According to Hayek, civilization advances by the repression of several instincts. Hayek thus continues in the tradition of Cuvier and Durkheim, in contrast to that of Darwin, of regarding human progress and the use of instinct as inversely correlated.

Although contestable, this was a powerful rhetorical move. Hayek first capitalized on the generally negative attitude towards the concept of instinct in much of twentieth-century social science. Second he argued – in line with the long rationalistic tradition of distrust for our impulses and emotions – that civilization must involve the repression of many of our instincts. So far, he was in the company of many. Then, third, he turned this argument against the political left, by proclaiming – without evidence – that collectivist sentiments are residues of our primitive past, and inappropriate for the individualism that must be foundation of a free and civilized society. However, despite his powerful rhetoric, Hayek ignored a very different explanation of the twentieth-century impetus towards collectivism. As Joseph Schumpeter (1942, p. 143) and several others maintained, socialism might alternatively be regarded as modern liberal ideology run to rationalistic and egalitarian extremes.

As Charles Leathers (1990, p. 175) wrote: 'Both Veblen and Hayek made normative uses of instincts, but in a very different fashion.' In contrast to Hayek, Veblen identified some instincts, notably the 'instinct of workmanship' and the 'parental bent' as not only being highly positive and worthwhile, but also standards of progress in themselves. However, normative issues are not my prime concern here. What is clear is that in their contrasting uses of the concept of instinct, Veblen and Hayek had very different understandings of the nature of instinct itself. While Veblen saw instincts as a necessary foundation for all thought and behavior, Hayek limited his discussion of these inherited impulses, and never acknowledged their indispensable role in human cognition and action. In particular, while Veblen saw reason as itself requiring instinct to function, Hayek saw reason and instinct as mutually exclusive rather than complementary, and often at odds with each other.

Hayek's treatment of habit is similarly problematic. Again the concept is not prominent, because it is also subsumed within his overly extensive concept of a 'rule'. In addition, unlike Veblen and Dewey, Hayek failed to acknowledge that habit and reason can be complements. Hence in one passage Hayek (1958, p. 239) wrote of being 'guided by habit rather than reflection' as if they were generally antagonistic sources of behavior. Another passage where Hayek (1973, p. 11) referred to habit is as follows:

> Many of the institutions of society which are indispensable conditions for the successful pursuit of our conscious aims are in fact the result of customs, habits or practices which have been neither invented nor are observed with any such purpose in view.

Here Hayek argued that institutions result in part from habits and customs, and in turn these institutions are conditions for conscious action. But Hayek neither established a direct link from habit to intention, nor recognized that habit is a necessary foundation for conscious reflection itself. Furthermore, his rather casual use of the term here suggests a conception of habit as settled behavior, more than a propensity or disposition.

In his last book, Hayek (1988, p. 23) argued that 'custom and tradition stand *between* instinct and reason – logically, psychologically, temporally.' This is the closest he gets to acknowledging the instinctive foundation of reason. His former association of custom with habit would place both in the intermediate position. But while he connected instinct, custom and reason, he failed to establish them as complementary with one another. While Hayek (1988, p. 21) ably criticized the notion that 'the ability to acquire skills comes from reason' he did not address the foundations and evolutionary origins of reason itself.[9]

Overall, Hayek subsumes both habit and instinct within his excessively general concept of a rule, thus neglecting the cognitive and psychological foundations of rules themselves. What is partly required is an explanation why people do, or do not, follow rules. Pointing to the incentives and sanctions associated with rules is insufficient because it would not explain how individuals evaluate the sanctions or incentives involved. We also have to explain why they might, or might not, take incentives or sanctions seriously.

Clearly, the mere codification, legislation or proclamation of a rule are insufficient to make that rule effect social behavior. It might simply be ignored, just as many French ignore legal restrictions on smoking in restaurants, and drivers everywhere break speed limits on roads. In this respect, the unqualified term 'rule' may mislead us. What matters in the construction of institutions are systems of established and prevalent social rules that structure social interactions, rather than the formal structure of rules as such. Furthermore, it is only through an understanding of the role of instinct and habit that we can show how rules are followed, become established and attain durability.

Although Hayek made repeated reference to Darwin, especially in his mature works, he treated Darwinism as a continuation of earlier evolutionary ideas, which depended less on variation and selection. Hayek (1978, p. 265) alleged that others 'made the idea of evolution a commonplace in the social sciences of the nineteenth century long before Darwin.' Hayek (1973, p. 23) insisted on the existence of 'Darwinians before Darwin'. With such statements he repeatedly underestimated the substance and impact of the Darwinian Revolution (Hodgson, 1993, 2004b). Although Hayek's development of evolutionary theory in the social sciences is highly significant, its Darwinian component is incomplete. In particular, and unlike Veblen and Dewey, Hayek failed to appreciate the impact of Darwinian thinking on the treatment of human mind and intentionality.

5. Conclusion: Veblen, Dewey and Hayek in the Light of Modern Research

This broadly chronological treatment of the views of Veblen, Dewey and Hayek on the question of instinct, habit and reason raises the old question as to whether science really or always makes cumulative progress. Of the three, Dewey was the most sophisticated philosopher. But in Veblen's writing the implications of Darwinism and Jamesian psychology were driven most deeply into the philosophical core of the social sciences. If Veblen had had the energy and longevity of Dewey or Hayek, one wonders what he might have achieved. But Veblen's legacy has been constrained by his generally elliptic and often cryptic writing style,

[9] See Murphy (1994) for an illuminating discussion of the complementarities of instinct, habit and reason. Murphy (1994, p. 538) concluded: 'Hayek, like the Sophists, treats his concepts as mutually exclusive alternatives (nature or custom or stipulation), whereas Aristotle treats his concepts as complementary and mutually inclusive (nature and custom and stipulation).'

and the concentration of his most innovative theoretical output largely within the few years from 1898 to 1914.[10] By contrast both Dewey and Hayek both continued to produce ground-breaking work for half a century or more. However, the modern literature suggests that the Veblenian stance is more in line with current research in psychology and philosophy.

The revival of pragmatist philosophy and the emergence of evolutionary psychology are relevant in this context. In his modern reconstruction of pragmatist thought, Hans Joas (1996, p. 158) succinctly summarized its contribution in this area:

> The alternative to a teleological interpretation of action, with its inherent dependence on Cartesian dualisms, is to conceive of perception and cognition not as preceding action but rather as a phase of action by which action is directed and redirected in its situational contexts. According to this alternative view, goal-setting does not take place by an act of intellect *prior* to the actual action, but is instead the result of a reflection on aspirations and tendencies that are pre-reflexive and have *already always* been operative. In this act of reflection, we thematize aspirations which are normally at work without our being actively aware of them. But where exactly are these aspirations located? They are located in our bodies. It is the body's capabilities, habits and ways of relating to its environment which form the background to all conscious goal-setting, in other words, to our intentionality. Intentionality itself, then, consists in a self-reflective control which we exercise over our current behavior.

This pragmatist conception of action is entirely consistent with the views of both Veblen and Dewey. However, while Dewey always stressed that cognition was embedded in process and circumstances, Veblen was more consistent in seeing habit and instinct as the necessary foundations of intention and reason. Remarkably, with developments in modern psychology and elsewhere in the 1980s and 1990s, the Veblenian approach on instincts and habits now seems remarkably modern. For instance, Howard Margolis (1987, p. 29) has pursued the hierarchy of instinct, habit and reason in the following terms:

> The output of the brain ... would then consist of some blending of instinct, habit, and judgment, all subject to errors and limitations, but on the whole sufficient to make the brain capable of survival in the environment in which it operates. There is a natural hierarchy in the three modes (instinct, habit, judgment). Habits must be built out of instincts, judgment must somehow derive from instinct and habits.

The idea that that reason is in part a manifestation of instinct, and that instinct and reason are complements, has again found its time a century after James and Veblen. Leda Cosmides and John Tooby (1994b, p. 330) wrote of 'reasoning instincts' and Henry Plotkin (1994, p. 165) has explained that:

> Rationality and intelligence are extensions of instinct and can never be separated from it. The doctrine of separate determination is completely wrong. ... *Instinct is the mother of intelligence*.

Instinct is not the antithesis of reason, but one of its preconditions. By freeing the conscious mind from many details, instincts and habits have an essential role. If we had to deliberate upon everything, our reasoning would be paralyzed by the weight of data.

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[10] See Hodgson (2004a, 2004c) for discussions and possible explanations of Veblen's waning creativity.

Modern evolutionary psychologists have provided evidence that human rational capacities are improved when logical rules are placed in a social context. Our minds are more tuned to socially contextualized rules than to abstract logical reasoning. Accordingly, our knowledge makes use of 'modular' intelligence or 'fast and frugal' heuristics, rather than extended, intricate computations that consume as much as possible of the available information.[11]

Cosmides and Tooby (1994a, p. 68) argued that human intentionality must be studied in an evolutionary context: 'The human brain did not fall out of the sky, an inscrutable artefact of unknown origin, and there is no longer any sensible reason for studying it in ignorance of the causal processes that constructed it.' This has led to a critique of prevailing versions of rationality and intentionality in the social sciences. Among these is the separation of thought from its neural and material context. As Denise Cummins (1998, p. 31) put it: 'The Cartesian fantasy is that mind is pure intellect, the engagement in pure thought for its own sake. But evolution doesn't work that way.'

Cosmides and Tooby (1994b, p. 327) rejected the widespread assumption 'that rational behavior is the state of nature, requiring no explanation.' They went on to criticize what they call the Standard Social Science Model, where the mind harbors general cognitive processes that are 'context-independent' or 'context-free'. The key argument in this modern literature is that postulates concerning the rational capacities of the human brain must give an explanation of their evolution according to established Darwinian principles of evolutionary biology (Cummins and Allen, 1998).

Many of the ideas of the early pragmatists and instinct psychologists have today made a comeback. 'Modern research has tended to lessen the priority of the conscious, deliberating aspect of the mind' (Twomey, 1998, p. 441). Accordingly, Antonio Damasio (1994) has undermined the Cartesian barrier between body and mind, and accordingly between intentional and materialist causality. The phenomenon of the mind cannot be understood from the functioning of the brain alone. Mind and reason are both also inseparable from the body and its environment (Clark, 1997a, 1997b). This environment includes the institutions within which people act. Beliefs and intentions are, in part, formed and changed through interactions with others (Lane *et al.* 1996). We think and act in and through the contexts of our activities. The idea of the human will as the ultimate, context-independent source of all intention and belief is untenable.

Paul Twomey has explored in detail the parallels between Veblen's 'economic psychology' and much of modern psychology and cognitive science. The perspective that Veblen inherited from Peirce, James and others 'stressed the active and multi-tiered nature of the mind in which instincts, habits, and conscious reasoning are all significant for understanding human behaviour' (Twomey, 1998, p. 437).

Any attempt to define rationality in an entirely context-independent manner is inadequate. In an ongoing process, people act, perceive, reason, make decisions, and act again. We try to do our best with our knowledge in the circumstances. But the cognitive frames and criteria, which they use in their perceptions and deliberations, necessarily precede and mould the reasoning process. Rationality itself depends on prior social and psychological props. 'Mind first' explanations fail to acknowledge this.

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[11] See Buss (1999), Cosmides and Tooby (1994a, 1994b), Cummins (1998), Gigerenzer *et al.* (1999), Plotkin (1994, 1997), Potts (2003), Sperber (1996), Todd and Gigerenzer (2000), Weingart *et al.* (1997).

Even within mainstream economics, where hard core notions of rationality have long been protected from critical attack, there are recent signs of a move in this direction. Work by experimental economists is increasingly being interpreted as establishing the importance of the institutional and cultural context of decision-making (Loomes, 1999; Smith, 2003). The new subdiscipline of 'neuroeconomics' abandons Cartesian dualism and attempts to ground rational deliberation and choice on neurological and biological mechanisms (Glimcher, 2003; Zak, 2004; Camerer *et al.*, 2005).

It is not the notion that humans act for reasons that is being attacked here. Humans do act for reasons – but reasons and beliefs themselves are caused, and have to be explained. It is proposed here that reasoning itself is based on habits and instincts, and it cannot be sustained without them. Furthermore, consistent with the evolutionary doctrine of continuity, these instincts and the capacities to form habits, all developed through a process of natural selection that extends way back into our pre-human past.

It might be objected that there is more to human purposefulness than goal-driven behavior. After all, ants and robots are purposeful in that limited sense. A key point about social interactions is that we gauge and impute the intentions of others, in order to understand and anticipate their behavior. Social action is intersubjective and reflexive. It is very much about meanings, interpretations of meaning, and imputations of meaning to the behavior of others. Regrettably, some enthusiasts of Darwin have overlooked these issues. But there is nothing in Darwinism that rules out their inclusion. On the contrary, if interpretations of meaning and intention are causally efficacious, then there is a Darwinian imperative to understand their role. Furthermore, the capacities to think, interact and interpret have themselves evolved and must also be understood in evolutionary terms (Bogdan, 1997, 2000).

It is indeed remarkable that a view of the human mind, strongly prompted by Darwin and developed by James, Veblen and others, has returned prominence in philosophy and psychology. It is the Darwinian framing of these ideas that has been shown to be enduring. Before we move on, we ought to recognize the contributions of the Darwinian pioneers of more than a century ago, some of which have been inadequately acknowledged.

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