

The myth of objectivity: is medicine moving towards a social constructivist medical paradigm?

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Biomedicine is improperly imbued with a nomothetic methodology, which views 'disease' in a similar way to other 'natural' phenomena. This arises from a 300-year history of a positivist domination of science, meaning that objectivist research (e.g. randomized controlled trials or biochemical research) attracts more funding and is more readily published than 'softer' qualitative research. A brief review of objectivism and subjectivism is followed by a definition of an emerging medical paradigm. Current 'inappropriate' medical practices become understandable in this broader context, and examples are given. A constructivist paradigm can continue to incorporate 'objective' clinical findings and interventions, as well as the recent evidence for the doctor–patient relationship as a major contributor to patient outcomes.

Introduction

It is commonly accepted that medicine combines both 'science' and 'art'. Yet what is meant by 'science'? The assumptions underlying the science of medicine are rarely explicated or debated. By taking a clinical example, I will show how the delivery of biomedicine is linked inextricably to its philosophy. A proposed definition of a different medical model hopefully will spark further debate about the underlying epistemology of effective health care.

A clinical example

Mrs Penny Brohm is an English alternative practitioner, and her specialist had just informed her that she had breast cancer. At first she did not want the offered mastectomy.¹

"His management of my crisis consisted of a pat on the hand and the assurance that he was very sorry. I was pretty sorry myself. This was the ultimate existential crisis and it packed a terrific punch. My medical team were dealing with a diagnosis as a physical problem in terms of their personal and technological resources, while I was trying to handle it on a mental and emotional level as a spiritual challenge. It seemed incredible that whatever attention had been afforded to me generally was

now withdrawn, and instead focused exclusively on my left breast. Doctors, studiously avoiding eye contact, came, examined me and left. Risking the agony of deep exposure, I asked to see the doctor who seemed to have played the role of chief negotiator. He arrived, briskly pleased, imagining no doubt that I had finally come to see things his way [to consent for mastectomy]. 'I think I know why I'm ill', I announced. I was absolutely shattered by his exasperated reply. 'Well, that doesn't make any difference to the way we treat you' he said.

I understand much better now how tightly some people are welded to a mechanistic model of disease that make such attitudes entirely predictable. However my refusal to accept the preferred mastectomy so infuriated the doctor that he terminated our discussion by sweeping away the curtains that surrounded my bed, firing as his parting shot over his shoulder; 'The decision will obviously have to be taken out of your hands'.

Unfortunately I was only too well aware of the prognosis for a middle aged woman with breast cancer: somewhere around 80% chance of surviving five years. [Later] I asked the doctor what I could do to help myself. To put myself in the winning half of the statistics. 'Nothing' he replied".

What has happened here? Why are this doctor and his patient unable to communicate effectively or to hear each other's point of view? It could be argued that this is simply an inadequate bedside manner, or a clumsy attempt at obtaining compliance (to mastectomy). Yet

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that argument trivializes the communication divide between patient and doctor, who seem to hold different world views. Surely both protagonists have similar goals, so how can such discord occur? The patient has personal and even idiosyncratic ideas about causation and treatment. Meanwhile, the doctor's single purpose is to treat the disease by mastectomy, regardless of the patient's ideas. He must have had good reasons to be so dogmatic; perhaps these reasons lie in the model he uses. Perhaps the reason for their discord is the philosophical basis to his medical model and, generalizing further, to the philosophical basis of orthodox modern medicine.

Science and the art of modern medicine

If medicine is a combination of science and of art, what particular form of science is being used? This question may seem rather rhetorical, as for many practitioners there is only one form of science anyway, and such a discussion would be superfluous. However, students of philosophy spend a great deal of time exploring and classifying various philosophical positions, and modern medical science can be analysed into certain categories. It seems likely that the doctor above was using the predominant medical model of the 20th century, that of biomedicine.

Biomedicine

McWhinney's version of this is as follows:²

“Patients suffer from diseases which can be categorised in the same way as other *natural phenomena*. A disease can be viewed *independently* from the person who is suffering from it and from his or her social context. Mental and physical diseases can be considered separately. Each disease has a *specific causal agent*, and it is a major objective of research to discover them. Given a certain level of host-resistance, the occurrence of disease can be explained as a result of exposure to a pathogenic agent. The physician's main task is to *diagnose* the patient's disease and to describe a *specific* remedy aimed at removing the cause or relieving the symptoms. He or she uses the clinical method known as differential diagnosis. Diseases follow a *defined clinical course*, subject to medical interventions. The physician is usually a *detached neutral observer*, whose effectiveness is *independent* of gender or beliefs. The patient is a *passive and grateful recipient* of care”.
(My emphasis added)

This is a fairly accurate description of the orthodox version of 20th century medicine. Biomedicine is now taught explicitly in Western Universities and has been the main form of medical intervention since the latter

part of the 19th century. While it could be argued that many GPs and specialists do use a broader medical model in actual practice, biomedicine is still the predominant discourse in most medical journals, almost all textbooks of medicine, in hospital grand-rounds, in referral letters, in grant applications, in management, and so on.

The definition contains several implicit assumptions. Firstly, the idea that disease can be considered as *separate* from the person with it, like other naturally occurring phenomena. This implies that apart from the doctor's biological interventions, a disease will continue to run a well-defined course, quite independent of the patient's context or beliefs. Secondly, the inherent logic is one of simplistic cause-and-effect: substance A will act on substrate B, causing effect C. Thirdly, the doctor is expected to remain ‘distant’ from the patient, rather like a natural scientist. This implies that the interaction between doctor and patient would have no influence on the outcome of the disease. The ‘detached observer’ is a well-known phrase that describes this ‘correct’ approach to the patient. This goes back as far as Sir William Osler, one of the most influential medical leaders in the 20th century and famous for his inspirational lectures.³ For example; “No quality ranks with imperturbability . . . Cultivate then, gentlemen, such a judicious measure of obtuseness as will enable you to meet the exigencies of practice with firmness and courage . . .”

This was the form of medicine taught in medical school in the 1970s in New Zealand, yet the underlying epistemology was never articulated explicitly.

Philosophical definitions

Two attempts to be more explicit about the philosophical basis of biomedicine follow. Little is a retired surgeon with an interest in medical ethics:⁴ “It is sufficient to say that western medicine has evolved very strongly in a tradition of empiricism, realism, materialism and positivism, and for these reasons the scientific or experimental method is highly valued by medical scientists”.

Mattingley's view of biomedicine is from an anthropological viewpoint.⁵

“Biomedical professionals attempt to deploy a means–end rationality directed to controlling the disorder created by illness. The reasoning process is justified by the empiricist and essentialist understanding of reality and the belief that the ultimate reality one is dealing with is biological . . . medical professionals commonly assume that clinical reasoning is a form of implied natural science”.

Table 2 lists the current definitions of these philosophical terms. Traditional science is embedded with this objectivist and positivist philosophy, which was initiated in the 17th century with contributions from Descartes, Newton and later Comte.^{6,7} Briefly, realism

TABLE 1 Comparisons between objectivism and subjectivism

Questions	Postulates of objectivism	Postulates of subjectivism
1. How does the world work? (Ontology)	There is only one reality. By carefully dividing and studying its parts, the whole can be understood. (Realism)	There are multiple realities, being socio-psychological constructions forming an interconnected whole. (Nominalism)
2. What is the relationship between the knower and what is known? (Epistemology)	The knower can stand outside of what is to be known. True objectivity is possible. (Positivism)	The knower and the known are inter-dependent.
3. What role do values play in understanding the world?	Values can be suspended in order to understand.	Values mediate and shape what is understood.
4. Are causal linkages possible?	One event comes before another and can be said to cause that event.	Events shape each other. There are multidirectional relationships.
5. What is the possibility of generalization?	Explanations from one time and place can be generalized to other times and places.	Only tentative explanations for one time and place are possible.
6. Human nature	Determinism.	Voluntarism.
7. Methodology	Nomothetic (search for universal laws).	Idiographic.
8. Preferred method of research	Quantitative research.	Qualitative research.

Adapted from Maykut and Morehouse.⁴¹

and nominalism are two ends of the spectrum in ontology. The realist view in social science is that all objects have an independent reality and meaning quite separate from the observer. If knowledge pre-exists and ‘needs discovering’, then the researcher is required to be in an observer role. However, if knowledge and meanings are cultural, personal and unique, then the researcher needs to be more involved in order to find those meanings. Determinism and voluntarism are also polarized opposites in the scale of views about human behaviour. The growth of behaviourism in the 1950s, for example, illustrated the prevailing view that human beings respond in a mechanistic way to challenges from their external world. Similarly, the researcher in an objectivist paradigm looks for universal laws, which are true in all situations; the methods are said to be nomothetic. However, a research method designed to understand individual human behaviour would be called idiographic. Table 3 compares the philosophical opposites of objectivism and subjectivism and, at present, it appears that biomedicine is located firmly in an objectivist philosophy.

In McWhinney’s definition, biomedical health professionals appear to use an objectivist philosophy, with a positivist epistemology. These scientists would search for *universal truths*; in this case the truths are about the *nature of disease*. However, if this ideology were applied to clinical practice, patients would be expected to have diseases that follow defined clinical paths. Is this the case however? Is disease a universal law, in the same way that

gravitation, say, is a function of the universal laws of physics? Can disease be considered as a separate thing to the person with it? Can the behaviour of disease in one patient predict how it will appear in another? Is the same disease consistent across cultures? From my own experience, I would answer “no” to these questions. I consider that a nomothetic approach is an inappropriate one for medical practice.

Reviewing the clinical vignette about Mrs Brohm, the doctor seems to believe that not only are her ideas on causation irrelevant, but that she is powerless to influence her outlook in any way. His underlying view of human nature would tend then to an almost fatalistic determinism, while his ontological view would be that diseases are ‘real’ entities independent of the person with it. The contradiction with his epistemology is, however, quite striking. Far from being a ‘detached observer’, he is clearly quite passionate about his view of disease, and finds it extremely annoying that his patient is less than a ‘grateful and passive recipient of care’. In fact, *he is very much involved*, but verges on old-fashioned paternalism.

The enculturation of medical students

This objectivist approach to medical practice starts in medical school.⁸ Students learn about anatomy, cell biology, physiology or pharmacology, and it seems that

TABLE 2 *Glossary of terms*

Empiricism	doctrine that all knowledge is derived from sense-experience; theory that concepts or statements have meaning only in relation to sense experience
Epistemology	the branch of philosophy that deals with the varieties, grounds and validity of knowledge; the relationship between the knower and what is known
Essentialism	that essence is prior to existence i.e. a belief that things (including human beings) have a set of characteristics which make them what they are, and that the task of science and philosophy is their discovery and expression
Existentialism	a person (unlike a thing) has no pre-determined essence, but forms his/her essence by acts of pure will and by the very act of existing as a being
Idiographic	concerned with the individual; descriptive of single and unique facts and processes
Logic	the branch of philosophy that deals with forms of reasoning and thinking, especially inference and scientific method; a chain of reasoning.
Materialism	doctrine that consciousness and will are wholly due to the operation of material agencies; nothing exists except matter, and its movements and modifications
Nominalism	doctrine that abstract concepts are mere names without any corresponding reality
Nomothetic	of or pertaining to the study of discovery of general laws; from <i>nomos</i> (Greek)—the law of life
Objectivism	the belief that certain things (especially moral truths) exist apart from human knowledge of perception of them; the tendency to lay stress on what is external to or independent of the mind
Ontology	the science or study of being; that part of metaphysics that relates to the nature of being or essence
Paradigms	a mode of viewing the world, which underlies the theories and methodology of science in a particular period of history
Phenomenology	theory that the pure and transcendental nature and meaning of phenomena and hence their real significance can only be apprehended subjectively
Positivism	a philosophical system elaborated by Auguste Comte recognizing only observable phenomena and rejecting metaphysics and theism; every intelligible proposition can be verified or falsified scientifically
Realism	doctrine that matter as the object of perception has real existence independent of a perceiving agent
Soteriology	the doctrine of salvation
Subjectivism	doctrine that knowledge, perception, morality, etc. is merely subjective and relative and that there is no objective truth; a theory or method based exclusively on subjective facts
Voluntarism	a theory that regards will as the fundamental principle or dominant factor in the individual

Source: *New Shorter Oxford English Dictionary*. Oxford: Clarendon Press, 1993.

this particular knowledge *is* reasonably independent of context. They then learn about diseases *using the same methodology* (detached observer, generalizable laws independent of context, and so on), and so, over the years, students gradually are inculcated with an objectivist or positivist stance. As emerging doctors, this places them in a rather difficult position. How are they to approach the real patient, who contains all that physiology and anatomy, and one of those diseases? It would be not unreasonable for them to consider this new ‘object of study’ in the same way, as they have never been explicitly taught anything different. Yet as I have outlined above, I believe that this nomothetic approach to the *practice* of medicine is an inappropriate one, even if the underlying knowledge basis has some context-free information.

In summary, doctors become enculturated into one particular epistemological stance, that of the ‘detached observer’. While this may be a useful stance for analysing data, or in deductive reasoning, patients may not unreasonably expect more involvement from their personal physician.

Resolving the art with the science

Is there a resolution to this conflict between the method of *gaining* knowledge and the method of *application* to individual patients? Simplistically, one could say that in search of knowledge the doctor should be objectivist, while in the practice of medicine (the art) he/she should be more subjectivist. Yet in practice this does not occur. For example, the recent trend toward biological psychiatry implies that practitioners believe more in a deterministic view of human nature than in seeing humans as creator of their actions and behaviours. Those beliefs would strongly influence the management of patients with psychological problems, and so the direction of the consultation is once again philosophically led.

One answer comes from Toulmin, who seems to enjoy the paradoxical combination of art and science in medicine, presenting philosophers with a peculiarly rich source of debate. His criticism of the overly objective clinician is particularly severe:⁹ “The misplaced emulation by physicians of ‘science’ is . . . the real reason why

the general public is alienated from professional medicine. Inevitably and properly, the focus of the natural sciences is on the general rather than the particular, the universal rather than the existential . . . so instead of seeing individual subjects as ‘patients’ afflicted with various ills, biomedical scientists legitimately regard them as ‘cases’ of general syndromes or conditions; their subjects are therefore interesting only incidentally, to the extent that they exemplify some pathological entity that is interesting *in itself*”. His resolution is to refocus back to the original goal of medicine; to relieve suffering *in the individual patient*. Thus “medical knowledge can make no pretence at being a general and universal [knowledge]; rather it is intrinsically a variety of particular, existential knowledge . . . the proper application of general medical knowledge to individual human beings demands an accurate application of their particular needs and conditions; so that the task of medicine—however ‘scientific’ it may become—remains fully ethical”.

Toulmin dubs this rather curious paradox in medical practice as the mix of universal and the existential in the one situation.

There seems to be one sort of science for the background knowledge that medical practitioners require (universal, nomothetic, positivist), and a different sort of science for the application of that knowledge to individual patients (phenomenological, qualitative, narrative, interpretive). No wonder students are confused when they have contact with real patients and no wonder practitioners behave as the specialist did with Mrs Brohm. Doctors have inherited a myth of objectivity that is applied mistakenly to the existential dilemma of a single patient.

Other writers have also reviewed the philosophy of medical science^{10–15} and there have been debates in other disciplines such as anthropology,^{16–19} physics^{20,21} and politics.²² The central thread across all these disciplines has been the shift away from positivist and realist stances toward more subjectivist models, where cultural relativity and observer subjectivity become acceptable.

Towards a more subjectivist epistemology

Although biomedicine remains the dominant medical model, there is already some interest in researching the communication between doctor and patient,^{23–26} with considerable evidence that the interaction between patient and doctor has a significant effect on the outcome of the consultation.^{27–32} This contradicts the positivist epistemological basis of biomedicine that the doctor can observe without influencing what is being observed. This accumulating body of research data presents a major challenge to the current orthodox biomedicine, and various writers have already outlined their own versions of alternative models.³³

Either biomedicine incorporates these findings (which will be conceptually and philosophically difficult³⁴), or

else a new medical paradigm needs to be developed, building on the existing strengths of biomedicine. Here is a definition of an enlarged model that can encompass these research developments.

A social constructivist medical model

Patients suffer from illnesses arising from a matrix of cultural beliefs and biological systems. A complex interaction occurs between patient and clinician, and behavioral outcomes are constructed from their negotiations and the doctor’s physical interventions. Patients are accorded ‘sick’ status according to social conventions unique to each sub-culture. Recovery from illness will depend on individual beliefs, cultural support systems for the patient, the influence and process of the doctor–patient relationship, and biological factors.

The underlying science here is located in a constructivist philosophy while other descriptive terms would be phenomenological,³⁵ interpretivist or subjectivist. The research methodology legitimately would include qualitative, narrative and interview research, which would be accorded equal validity and status with quantitative research or randomized controlled trials. Understanding the complexities of the decision-making process between doctor and patient would be an important focus, using methods such as video analysis³⁶ and building on conceptual models such as information processing.³⁷ There is already an emerging (if small) school of qualitative research within the medical context,^{38–41} but at the moment most medical journals will only publish objectivist research.

Examples

In 1988, Dowd⁴² initiated an interesting debate about the best approach to the heart-sink patient, sometimes labelled in derogatory terms^{43,44} as ‘hateful’ or ‘medical care abuser’. In New Zealand, the discussion on this is less well developed, but the term “difficult” (in quotation marks) is used, as it is the perception of the consulting doctor that determines whether or not a patient is ‘difficult’. The recent review by Butler and Evans⁴⁵ locates these patients firmly in the doctor–patient relationship. Their definition of heart-sink is “a negative response from the clinician to the presentation of personal, social or spiritual suffering in ‘clinical terms’”. They conclude: “the heartsink phenomenon seems to be a symptom of the tension within the philosophical foundations of general practice and it presents general practice with a fundamental challenge” . . . between just a biological focus (in which the soteriological dimensions of health are excluded), and a broader medical paradigm in which the personal, social and spiritual are

legitimately included. In a constructivist paradigm, 'difficult' or heart-sink patients would no longer be alienated by a narrow biomedical science, or be disadvantaged by the dominant biological materialism of the 20th century. The 'science' of comprehension of these patients would be through understanding and researching the doctor–patient relationship, something that was initiated over 50 years ago by Balint,⁴⁶ and which is only now gaining prominence as the heart of the clinical encounter. The patient's narrative would also gain further emphasis.⁴⁷

There are many other examples of common medical practices that illustrate an underlying philosophical tension. These include the inappropriate prescribing of narcotics to drug-seeking patients, of antibiotics for viral infections or of hypno-sedatives in the elderly. These physician behaviours are inexplicable when viewed from a biomedical paradigm, as there is no research or biological evidence to support such actions. Yet as outcomes from a complex socio-cultural interaction (the consultation) in a different paradigm, they are readily understandable.

Summary

The philosophies underlying the art and the science of medical practice are paradoxically dissimilar. Much of consumer dissatisfaction about modern practice could be attributed to an inappropriate application of a nomothetic science to the individual patient. As most medical journals continue to publish more quantitative than qualitative research, and as more research funding goes to the former, then the present medical discourse community would appear to be still dominated by biomedicine. The proposals listed here for a more interpretive and subjective medical model are a challenge to traditional biomedicine. Some physician behaviours are better understood by acknowledging the underlying philosophical tensions within everyday practice. Data on the outcome from variations in the doctor–patient relationship, and the emerging school of qualitative research, lead the challenge of a more constructivist medical model.

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