A B S T R A C T

This article describes three approaches to research in the social sciences: positivist, interpretivist and critical social science. It uncovers some of the philosophical assumptions these approaches adhere to and situates the discussion in the population health arena with respect to these assumptions. The issues under debate are as yet unsolved (and perhaps unsolvable), with long histories in philosophy and sophisticated rationales on all sides. The article advocates defining the underlying terms of discussion and making assumptions explicit to facilitate dialogue, and also encourages exploration of and tolerance for other approaches.

A B R É G É

Cet article décrit trois approches de recherche en sciences sociales – les approches positiviste, interprétationniste et critique. On y révèle quelques-unes des hypothèses philosophiques auxquelles ces approches adhèrent et on situe cette discussion dans le domaine de la santé de la population par rapport à leurs hypothèses. Les questions débattues ne sont pas encore résolues (et sont peut-être insolubles), avec de longues histoires en philosophie et des rationalités spécifiques sophistiquées. Cet article préconise de définir les termes sous-jacents au débat et de rendre les hypothèses explicites pour faciliter le dialogue; enfin, on encourage d'explorer les autres approches et de les tolérer.

Different Wor(l)ds: Three Approaches to Health Research

Gerry Veenstra, PhD

Since the publication of the book *Why Are Some People Healthy and Others Not?* by the Canadian Institute of Advanced Research (CIAR) in 1994, there has been a furor of discussion and critique around the determinants of health framework presented there, some of it rather heated in nature. To assist moderation of the discussion among Canadian academics pursuing an understanding of the social determinants of health, this article presents three ideal-typical approaches to research in the social sciences, namely: the positivist, interpretive, and critical social science approaches, each of which can claim adherents within the population health movement. Some of the assumptions about the nature of reality and how to explore it adhered to by these perspectives are uncovered, followed by suggestions for moving forward with the population health agenda in light of these differences.

Resolution of fundamental ontological and epistemological differences is impossible by their very natures, and adherence to only one perspective (or paradigm) would weaken the population health movement in the long run by reducing innovative explanation. Even so, self-reflexivity with respect to basic assumptions is important and beneficial. Each perspective has a distinguished pedigree in the social sciences

with good reasons for pursuing particular research strategies, and argument among perspectives is embedded in centuries-old discourse.

Positivist social science

Positivism developed during the Enlightenment (post-Middle Ages) period of Western thinking and includes the Enlightenment belief that people can recognize truth and distinguish it from falsehood by applying reason. This truth can then be used to improve the human condition. Positivism, also the approach of the natural sciences, can claim Locke, Hume, Bacon, Comte and Durkheim as adherents. Within the social sciences, it can be defined as

‘an organized method for combining deductive logic with precise empirical observations of individual behaviour in order to discover and confirm a set of probabilistic causal laws that can be used to predict general patterns of human activity.’¹

The causal laws sought are thought to be true for large groups of people and permit accurate prediction of how often a social behaviour occurs within a large group. Quantitative social research, through the use of surveys, experiments and statistics, is generally used to discover such laws.

The ideal-typical positivist approach is based upon a number of assumptions about the nature of the social world (ontology) and what constitutes valid knowledge of it (epistemology). 1) ‘Social and physical reality contain preexisting regularities that can be discovered,’ and this regularity ‘does not change over time.’ Thus the laws of human behaviour hold in all historical eras

Centre for Health Services and Policy Research, Institute of Health Promotion Research, Department of Anthropology and Sociology, University of British Columbia

Correspondence and reprint requests: Dr. Gerry Veenstra, Department of Health Care and Epidemiology, University of British Columbia, Mather Building, 5804 Fairview Ave, Vancouver, BC, V6T 1Z3, Tel: 604-822-8042, Fax: 604-822-4994, E-mail: veenstra@chspr.ubc.ca

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and in all cultures. 2) 'Humans are self-interested, pleasure-seeking, rational individuals' who are shaped by external forces. 3) 'The causal laws and the specific facts observed about social life are connected deductively by logic.' In fact, someday social science theories will be 'symbolic systems similar to mathematics and to theories in the natural sciences.' 4) 'Observable facts and ideas or values are fundamentally separate,' and 5) 'knowledge from the senses about observable reality is more valid than other knowledge.' 6) Thus 'rational people who independently observe facts will agree on them,' producing a social science which is value-free and objective, and 7) operates 'independently of the social and cultural forces affecting other human activity.'¹

Much of the discussion in population health circles reflects a conversation between positivism and its critics. The CIAR model of the determinants of health² is positivistic in tone, and the assumptions mentioned above are ones that have been challenged in recent years. The CIAR Program in Population Health was formed in a medical school by physicians and economists, for the most part – disciplines that have traditionally been storehouses for positivist philosophy and methodology. CIAR's attempt to place some determinants of health together in a flowchart of causality,² their attention to the 'gradient' – a relationship between socio-economic status and health found across cultures which is suggestive of an innate relationship between social status and health,³ – their strategy for identifying determinants of population health, which involves aggregating health by populations and searching for characteristics of the groups that correlate with health heterogeneities,⁴ and their attention to issues of causality and calls for more and better numerical data⁵ demonstrate positivist leanings.

Interpretive social science

The interpretive approach can be traced, in part, to Dilthey, Schutz, Mead, Blumer, Garfinkel and Goffman, and also to Weber, who introduced the notion of *Verstehen* – empathic understanding – and emphasized exploring how people feel and create meaning.

'In general, the interpretive approach is the systematic analysis of socially meaningful action through the direct detailed observation of people in natural settings in order to arrive at understandings and interpretations of how people create and maintain their social worlds.'¹

To do this, 'interpretive researchers often use participant observation or field research,' following 'rigorous and detailed methods to gather large quantities of qualitative data in the form of specific details.'¹

This perspective rests upon ontological and epistemological assumptions that differ substantially from those of positivism. The ideal-typical interpretivist 1) 'does not assume that social life is something out there, independent of human consciousness,' waiting to be discovered. 'Instead, human life is an accomplishment, intentionally created out of the purposeful actions of interacting social beings. The social world is largely what people perceive it to be.' 2) Unlike positivists, who assume that everyone shares the same meaning system, the interpretivist assumes that multiple interpretations of human experience, or realities, are possible. Thus it makes 'little sense to try to deduce social life from abstract, logical theories that may not relate to the feelings and experiences of ordinary people.' 3) Facts are 'fluid and embedded within a meaning system;' they 'are not impartial, objective, and neutral [...]' Interpretive research sees values and meaning infused everywhere in everything. What the positivist calls value freedom is just another meaning system and value – the value of positivist science. The interpretive researcher urges making all values explicit and does not assume that any values are superior to others.' 4) 'Interpretive theory gives the reader a feel for another's social reality and an in-depth view of a social setting,' describing the 'informal norms, rules, or conventions used by people in everyday life.'¹

Drawing upon one or more of these assumptions, Love et al.⁶ react to CIAR's grand theories of generalizable relationships, the flowcharting of phenomena and causal statements between discrete variables, wherein a model substitutes for actually describing, theorizing, and explaining

phenomena. Labonte⁷ says the CIAR approach is blind to issues of power and ignores the meanings people make of their lives. The CIAR group has stated that 'data unites; theory divides' which some, such as Robertson,⁸ have taken exception to. Poland et al.⁹ claim that the Evans and Stoddart² model lacks reflexivity regarding assumptions about knowledge utilization.

Critical social science

The third approach considered here seeks a middle ground between the first two in some ways, and strikes out in its own direction in others – the so-called 'critical' approach, which can claim Marx, Freud, Habermas and many feminist analyses in its camp. In general, critical social science is

'a critical process of inquiry that goes beyond surface illusions to uncover the real structures in the material world in order to help people change conditions and build a better world for themselves.'¹

The ideal-typical critical approach assumes the following: 1) Social reality is conflict-filled and governed by hidden, underlying structures. 2) Humans are creative, adaptive people with 'unrealized potential,' trapped by illusion and exploitation. 3) Social order is in constant change. Positivism, therefore, 'defends the status quo because it assumes an unchanging order instead of seeing current society as a particular stage in an ongoing process.' 4) 'The purpose of research is to change the world;' it is action-oriented. 'The positivist researcher often tries to solve problems as they are defined by government or corporate elites,' whereas 'the critical researcher asks embarrassing questions, exposes hypocrisy, and investigates conditions in order to encourage dramatic social change from the grass-roots level.' 5) 'The critical researcher studies the past or different societies in order to see change or to discover alternative ways that social life has been organized.' 6) 'There is an objective material world in which there is unequal control over resources and power.' 7) 'People are constrained by the material conditions, cultural context, and historical conditions in

which they find themselves,' yet they 'are not locked into an inevitable set of structures, relationships, or laws.' Thus there are no 'fixed laws of human behaviour.' 8) Facts are not 'theory-neutral.' 'Instead, each fact requires interpretation within a framework of values, theory, and meaning.' 'Theory provides a researcher with a type of map telling where to look for facts, what the important ones are, and how to interpret them once they are uncovered.'¹¹

Thus Hayes¹⁰ claims the CIAR approach is uncomfortable with notions of 'social structure.' Robertson⁸ claims that health discourses – such as the one around population health – are congruent with the prevailing social, political and economic context within which they are produced and maintained and are attached to professional, economic, political, cultural and/or ideological interests, but these are not recognized nor addressed by CIAR. On the surface the CIAR model is atheoretical, is not based on explicit theories of society and social change, but underneath is the belief that change can be brought about by adjustments in the economy, greater wealth, conservative economic thinking and market-based capitalism.⁸

In addition, Hayes¹⁰ calls for attention to concepts such as identity, personal experience, power, the body, the state and the environment, and rooting them in place rather than removing abstracting concepts from reality. Renaud¹¹ and Poland et al.⁹ advocate attention to the political economy perspective. Though the advancement of patriarchal capitalism has contributed to improvements in physical health, it also produced new illnesses¹¹ and contributed to inequalities in ill health.¹² Similarly, some suggest a relationship between the organization of industrial capitalism and patterns of ill health – the emphasis in capitalism on rational efficiency and economic profit at expense of labour led to working conditions that placed workers at risk of illness with little power to change their circumstances.¹³ The CIAR model does not differentiate between sex and gender, where the concept of gender, unlike nominal variables such as sex, is laden with norms, values and expectations.⁶ Like epidemiology in general, it does not meaningfully incorporate ethnicity or religion, apart from controlling for simple items in

statistical analysis. It does not investigate the relationships among capitalism, racism and patriarchy.¹⁴

Philosophical discourse in the 20th century

Between the two world wars, according to the philosopher-theologian Hans Kung, epistemologists of the Vienna Circle defended the thesis that only propositions of mathematics and logic, together with those of the empirical sciences, can be meaningful, and that propositions beyond these are, *a priori*, meaningless.¹⁵ They took to heart Wittgenstein's two propositions, from his *Tractatus Logico-Philosophicus*, that 'what can be said at all can be said clearly' and that 'whereof one cannot speak thereof one must be silent.' This project led to irreconcilable dilemmas, however, such as the strained relationship between an artificial (mathematics) and ordinary language, and the exclusion of the subject in mathematical-scientific knowledge and research.¹⁵ 'By what right is empirical, sense experience in particular set up as a criterion of meaning?'¹⁵ Kung, Mannheim¹⁶ and Taylor¹⁷ note, therefore, that the neopositivist program has broken down, in part driven by the intellectual self-honesty of the logicians themselves, but that the belief in facts and rationality still carries the spirit of the current age.

Karl Popper has also argued that logical positivism leads to absurdity. Even immediate sense perception involves an interpretation, and so our knowledge always begins with conjectures, assumptions and hypotheses.

'For Popper, the assumption that there exists an ultimate substantiation of propositions of science no longer open to criticism is a belief that ends in an unsolvable dilemma ... either a simply asserted dogmatism or a recourse to a never-ending series of new substantiations (*regressus in infinitum*) or a psychologism generalizing individual experiences.'¹⁵

Popper introduced a critical method, therefore, a method of trial and error, wherein science can never claim to attain truth, nor even a substitute for truth (such as probability). We can only guess, guided by the unscientific and metaphysical faith

in laws that we can only uncover-discover. Kung claims, however, that in light of the findings that progress in science occurs in a revolutionary fashion (Kuhn's paradigm shifts), even Popper's approach has been 'falsified.'¹⁵

Of even greater subjectivity is the hermeneutic circle described by the philosopher Charles Taylor. '[W]hat are the criterion of judgment in a hermeneutical science? A successful interpretation is one which makes clear the meaning originally present in a confused, fragmentary, cloudy form. But how does one know that this interpretation is correct?'¹⁷ One appeals to one's own understanding, but what if another has a differing understanding? We can show this person our and others' readings of other expressions to validate our reading, but

'success here requires that he follow us in these other readings, and so on, it would seem, potentially forever ... we can only convince an interlocutor if at some point he shares our understanding of the language concerned. If he does not, there is no further step to take in rational argument: we can try to awaken these intuitions in him, or we can simply give up; argument will advance us no further.'¹⁷

Rationalist and empiricist programs were attempts to break free of the hermeneutic circle, but Taylor believes that the difficulties encountered were insurmountable, 'not least of which was the perpetual threat of skepticism and solipsism [extreme skepticism] inseparable from a conception of the basic data of knowledge as brute data, beyond investigation.'¹⁷ Taylor's answer is to forward a science based on studying the intersubjective and common meanings embedded in social reality – these then are the primitive data that a science of human society should build upon. Even so this science will not be predictive, since it is impossible in the domain of human events to delineate a closed system, interpretation will not yield to exactitude, and humans are self-defining animals – with changes in self-definition come changes in human nature.¹⁷

Not every philosopher has dismissed the positivist agenda for the social sciences, however. Rudner¹⁸ argues that both the argument that science is impossible and the argument that only social science is impossible (on account of its inability to 'capture' reality) are based on the same kind of mistake. This mistake rests in a preliminary mistake about science and what it purports to do. Science does *not* try to reproduce reality, and so science's understanding of tornadoes does not require that one gain direct experience of tornadoes (or that the social scientist need obtain direct understanding of meanings as held by subjects). Also, for those who argue that social (or human) phenomena are unique and that generalization is therefore meaningless, Rudner argues that *all* phenomena are unique, in the natural world as well as in the social one, and so arguments against science in the realm of the social must logically be extended to the physical world as well. Are interpretivists willing to make such claims?

We come from this brief introduction to fundamental epistemological discourse with several issues to think about. What is meaning, and how does interpretation access it? Can we break free of the hermeneutic circle, or is each meaning in its field or context unique enough to invalidate scientific generalization? Do we wish a social science to describe, predict and/or explain reality, and how do description, prediction, and explanation differ? Varied answers to these questions can be found in philosophical discourse and also indirectly within empirical health research of the current day, with profound implications for population health research, policy and practice. If meanings are contextually specific, can one craft nation-wide policy? Where and to what degree can intervention affect meaning? Should health policy make identification of underlying and hidden relationships (that may determine unequal distribution of resources) its foremost priority?

CONCLUSION

Although most research into the social determinants of health does not explicitly reveal the assumptions under which the researchers operate, few researchers fall completely within one of the three ideal

types delineated here. Indeed, within the sociology of health there is an interest among many to incorporate postmodernist ideas,¹⁹ for example, which fall outside the three ideal-types depicted here, although such ideas have not gained much foothold outside of the discipline. For the most part, researchers likely pick and choose assumptions and approaches, to some degree, although when looking at the whole of their philosophical orientation, we might find they fit one of the three camps better than the others. Even so, uncovering assumptions should make conversation either flow less acrimoniously, limit it, or redirect it toward more elemental issues. 'If you wish to converse with me,' Voltaire said, 'define your terms.' In the words of the philosopher Will Durant,

'[h]ow many a debate would have been deflated into a paragraph if the disputants had dared to define their terms! This is the alpha and omega of logic, the heart and soul of it, that every important term in serious discourse should be subjected to the strictest scrutiny and definition. It is difficult, and ruthlessly tests the mind; but once done it is half of any task.'²⁰

Here are some simple suggestions. We could commit to an *ethic of tolerance* to accompany the pursuit of truth and knowledge. As health researchers we are all interested in making or discovering truth claims of various kinds, but might do well to accompany this pursuit with recognition of varied perspectives, and might also commit to a multifaceted exploration of reality. We could also advocate *ethics of self-reflexivity* and *disclosure*, wherein researchers discern their fundamental assumptions and make these assumptions explicit in their work, thus defining the subtle and hidden terms underlying discussion. Finally, we could advocate an *ethic of exploration* as well, wherein we open our minds to alternative perspectives and explore the dialogues among perspectives, as was begun, briefly, in this article. Such exploration may not bring one to change one's orientation, but that orientation *will* become more sophisticated and will enable us to better foster the ethics of tolerance and self-reflexivity.

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