

Stoddart<sup>9</sup> population health framework I will attempt to illustrate this notion of theory. Notwithstanding the fact that Carpiano and Daley admit their explanation of the relation between food access and health is intentionally simplistic, their focus illustrates the limitations of a narrow view of theory (theory (b), above). If it was possible to uncover all of the putative connections they discuss, for example, showing that there are geographical differences in local food quality and access, and that these were linked to obesity, either with or without mediation by cultural food practices, income, etc, this would be valuable information. But it would not address why it is there is a systematic spatial differentiation to food access by neighbourhood. For example, we might ask what beliefs, practices, constraints, etc, govern the retail food industry, what part do third sector organisations like food banks play, how are urban development trends or various levels of government involved, and what societal discourses legitimate the perpetuation of such disparities? For such answers we might look to geographical theory on the structural forces driving the tendency towards urban socio-spatial differentiation,<sup>10, 11</sup> or to critical theories of food access and urban development.<sup>12, 13</sup> A pluralistic approach to theory, in other words, should be our aspiration, but this presupposes an understanding of the typology of theory Sayer<sup>8</sup> describes.

Similarly, Carpiano and Daley criticise Evans and Stoddart for a framework that is too abstract to yield testable hypotheses. Now the shortcomings of the “social environment” component have been acknowledged by the authors themselves,<sup>14</sup> but I would argue that the framework’s level of abstraction is its strength, irrespective of its ability to

yield empirically testable hypotheses. Particularly noteworthy is the part of the framework that summarises a “furnace and thermostat” metaphor to represent the interaction between the burden of illness and the healthcare system in a society. This framework, I would argue is an examined conceptualisation of the structure of a system and its interaction with other systems (theory (c), above). It quite rightly defies straightforward empirical testing, and better judged for its internal consistency, cogency, and plausibility for explaining a real world phenomenon, and revealing previously unseen and unarticulated aspects of that phenomenon. The importance or validity of a theory is not reducible to its level of abstraction or its adaptation to conventional empirical research methods, this usually just implies that the theory is of a different type ((c), as compared with (a) or (b)).

The implication of the critical realism notion of theory (theory (c), above) is that the relevance of social epidemiology and population health is tied to its ability to provide theoretically informed explanations that “stand in a critical as well as an explanatory and interpretive relationship to its object and to common-sense knowledge” (p 41).<sup>8</sup> This implies that “social science should not be seen as developing a stock of knowledge about an object which is external to us, but ... that the social world is socially produced and hence only one of many possible human constructions” (p 41).<sup>8</sup> In other words, we need a pluralistic vision of theory, which includes ordering frameworks, hypotheses, but also examined conceptualisations which prescribe critical theories of society that reveal transformative opportunities for the betterment of population health.

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## REFERENCES

- 1 Krieger N. Theories for social epidemiology in the 21st century: an ecosocial perspective. *Int J Epidemiol* 2001;**30**:668–77.
- 2 O’Campo P. Advancing theory and methods for multilevel models of residential neighborhoods and health. *Am J Epidemiol* 2003;**157**:9–13.
- 3 Muntaner C, Chung HJ. Psychosocial epidemiology, social structure and ideology. *J Epidemiol Community Health* 2005;**59**:540–1.
- 4 Carpiano RM, Daley DM. A guide and glossary on postpositivist theory building for population health. *J Epidemiol Community Health* 2006;**60**:564–70.
- 5 Tarlov AR. Social determinants of health: the sociobiological translation. In: Blane D, Brunner E, Wilkinson R, eds. *Health and social organization*. London: Routledge, 1996:71–93.
- 6 Shonkoff J, Phillips DA, eds. *From neurons to neighbourhoods: the science of early child development*. Washington, DC: National Research Council and Institute of Medicine, 2000.
- 7 Hertzman C, Weins M. Child development and long-term outcomes: a population health perspective and summary of successful interventions. *Soc Sci Med* 1996;**43**:1083–95.
- 8 Sayer A. *Method in social science: a realist approach*. 2nd ed. London: Routledge, 1992.
- 9 Evans RG, Stoddart GL. Producing health, consuming health care. *Soc Sci Med* 1990;**31**:1347–63.
- 10 Badcock B. *Unfairly structured cities*. Oxford: Basil Blackwell, 1984.
- 11 Harvey D. *Social justice and the city*. Oxford: Blackwell, 1973.
- 12 Wrigley N, Guy C, Lowe M. Urban regeneration, social inclusion and large store development: the Seacroft development in context. *Urban Studies* 2002;**39**:2101–14.
- 13 Riches G. Food banks and food security: welfare reform, human rights and social policy. Lessons from Canada? *Soc Policy Adm* 2002;**36**:648–63.
- 14 Evans RG, Stoddart GL. Consuming research, producing policy? *Am J Public Health* 2003;**93**:371–9.

## Postpositivist theory

# Where does new theory come from?

Denny Vågerö

## Establishing a theory of population health will depend on researchers giving up their disciplinary narrowness.

It is certainly a good ambition to clarify through a glossary how we use words like theory, model, hypothesis, and research question. The authors should be commended for trying. However, I found their views on the building of new theory not convincing.

(1) The whole approach to theory seems somewhat unrealistic. One crucial aspect is missing, in my view. Does theory come from an orderly process, like when we build a house, starting with the foundation, then the load bearing walls, etc? Here, “theory

building” is depicted as starting with a framework (where does the framework come from?), then moving to theory that is later tested in a model. It seems to me that the birth of new theory is a much more chaotic process, the characteristics of which we should learn to recognise.

A 100 years ago last year Einstein’s theories about light and relativity were formulated. A visit to the Einstein exhibition in Berlin last summer convinced me that his theories were the result of the fierce conflict between old and new schools of thought, and the inability of both these schools to accommodate empirical (experimental) results in a consistent way. For instance, there was no consensus whatsoever about any

framework (“a set of variables and the relations among them”, according to the glossary), from which one could have built his theory that light exists in the form of discrete units, quanta (today known as photons). Consequently the theory was immediately rejected; it was only reluctantly accepted as it solved the problem of explaining the photoelectric effect.<sup>1</sup>

Surely, this is a much more typical situation, in which a new theory is likely to emerge. The sceptical response from large parts of the scientific community is not unusual either. A new theory is more similar to a sudden leap out of a persistent and controversial research problem, than to the building of a house brick by brick. More like a frog leaping out of the pond.

Applying this to population health we should expect that theoretical development is more likely to come from research areas where we have controversy about specific issues of substance, rather than from controversy between theoretical schools of thought in general. For instance, does sharp income inequality in a country contribute to increased levels of circulatory mortality in that country? Around this issue, economists, epidemiologists, historians, psychologists, and sociologists continue to argue. By throwing oneself into the argument with empirical data, or with wild ideas, or with systematic reviews, one is likely to promote theory about social inequality and health. It seems less likely that all good researchers will first unite around a framework and then build a theory together. Yet one crucial empirical study (or more likely several

crucial studies) could shift the whole discussion towards consensus. Observation (a term not found in the glossary) and theory develop together.

I agree that the slow process of repeating studies, correcting previous mistakes, designing new studies, collecting evidence, adding detail, changing minor aspects, and refining concepts is a bit more like the building of a house; and certainly those processes are equally important in the long run. Thus there is a place for orderly brick by brick work to advance theoretical problems. But here also, one is most likely to advance if one focuses on anomalies, inconsistencies, and inherent conflicts in what is believed to be the known, and how this is conceptualised.

(2) For many years now, the social sciences have been plagued by a large amount of quasi-philosophical jargon of doubtful value. The most embarrassing example for us who have a social science background was revealed by Sokal<sup>2</sup> who managed to publish a faked nonsense-theoretical paper. Obscure language from social science sources played a key part in his successful attempt. Sometimes the approach to theory in the social sciences (and not only there) has resembled the building of churches, or empires, focusing on advancing the teaching and language of certain leading lights, rather than on the testing of their ideas against empirical evidence.

The formation of schools of thought is perhaps inevitable; but they often form around a mixture of ideological and scientific arguments. Labelling of one's own school of thought with a fancy name and that of the opponents with a less

fancy name (the most popular one for your opponent is “positivist”) is therefore a bad tradition, which we should try to avoid. It does not add to any substantial argument, rather the opposite in my view. It is far from clear from this guide and glossary why we should be interested in “postpositivist theory building” rather than any other view on theory. Terms like observation, evidence, and causality are all missing from the glossary, perhaps this is significant?

My own view is that a theory of population health will depend on researchers giving up their disciplinary narrowness. In the words of Mervyn and Ezra Susser we should try to integrate “causal pathways at the societal level...with pathogenesis and causality at the molecular level.”<sup>3</sup> Not an easy task, but a very necessary one.

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## REFERENCES

- 1 **Rigden J.** Einstein's revolutionary paper. *Physics World*, 2005. <http://physicsweb.org/articles/world/18/4/2>.
- 2 **Sokal A.** Transgressing the boundaries- towards a transformative hermeneutics of quantum gravity. *Social Text*, 1996;**46**, 47:217–52.
- 3 **Susser M, Susser E.** Choosing a future for epidemiology: II. From black box to Chinese boxes and eco-epidemiology. *Am J Public Health* 1996;**86**:674–7.

As we point out—and Dunn reiterates in his commentary—theory is a topic that regretfully, receives little attention in population health. We have been pleased to see that others share similarly strong opinions regarding the importance of theory. This is evident in all three commentaries. It was also abundantly evident in the review process for our article. We engaged in a lively debate with reviewers—and those exchanges (which were longer than the original manuscript) reinforced our beliefs that population health research could benefit from a more public discussion regarding the role of theory in research.

In this essay, we respond to points raised by the commentators as they pertain both to our “Guide and Glossary” and, more broadly, to facilitating theoretically driven research in population health. However, before addressing particular issues, we want

## Postpositivist theory

# Theory building on the high seas of population health: Love Boat, Mutiny on the Bounty, or Poseidon Adventure?

Richard M Carpiano, Dorothy M Daley

The complexity of health is a vast, seductive ocean that beckons us—challenging us to explore, navigate, and often battle against waves of ideas—within ourselves and among others.

**W**e thank the three authors for their commentaries on our “Guide and Glossary.” We hoped that our article would stimulate discussion about the importance of theory and theory building for population

health, but to be honest, we had no idea how the paper would be received. You can imagine, then, our excitement at being asked by the editors to reply to the three interesting commentaries published herein.