Ian McDowell’s thought-provoking piece provides an all-encompassing up-to-date framework for public health explanations rooted in earlier paradigms and acknowledging the political agenda involved in the practice of public health. The challenge is how to use a diffuse and multi-layered framework to generate equitable strategies to improve global public health, firstly how to operationalize the framework in day-to-day practice and secondly how much emphasis to place on causality and explanation at each level.

Currently, this and similar ‘ecosocial’ paradigms emphasize the importance of understanding patterns of disease within their social and historical context, or as has been more eloquently expressed ‘societal patterns of disease represent the biological consequences of the ways of living and working differentially afforded to the social groups produced by each society’s economy and political priorities’. These paradigms offer new insights without necessarily negating the tools and application of earlier paradigms, but may help delineate when they are appropriate. Just as in physics, Newton’s gravitational theory has been superseded, but is still used for most macroscopic gravitational calculations, whereas it is less accurate for massive objects. Similarly, a renewed emphasis on social and historical context may provide insight into the limitations of the earlier risk factor or ‘black box’ paradigm, as well suggesting explanations for its weaknesses and possibly new directions of inquiry, of which some limited examples are provided.

First, such a contextual emphasis implicitly warns us of the inherent risks in assuming that observational epidemiology can identify a causal factor, particularly for ‘way of life’ factors, such as alcohol, diet or obesity, because of the inevitable contextual confounding. Hence, the need to verify such observational associations in populations explicitly identified to have a different social and historical context. For example, the lack of protective effect of alcohol against ischemic heart disease (IHD) in South Asians might give pause for thought, and suggest the need to verify with other practicable method, such as Mendelian randomization. Secondly, it is unlikely that risk factors empirically derived in long-term industrialized populations are universally applicable in populations with very different histories and social structures, be they as biologically based as the Framingham equation or as intuitive as the perils of low socio-economic status for IHD. Moreover, consideration of why ‘black box’ risk factors do not always translate may provide novel insight into the underlying mechanisms. Thirdly, the emphasis on history draws attention to deprivation over historical time as a potential explanatory factor, for which there is a plausible biological mechanism, i.e. epigenetics. Such a factor might be most relevant to developing or recently developed countries, for example, to explain differences in indicators of population health such as height or perhaps birth weight. Finally, different paradigms may be useful for different purposes; micro-level reductionism may tease out an etiological pathway, while multi-level interventions might most effectively overcome structural and societal barriers.

Although such insights may help improve explanations in public health, ultimately the goal is prevention, and the issue is how much explanation do we need, at what level and what for? This framework makes it clear that we need sufficient explanation to distinguish between causal risk factors and the risk markers less relevant to prevention. Moreover, emphasizing the complexity of current explanations inevitably raises the possibility that, just as miasma obscured germs, current paradigms may be obscuring a differently structured and potentially more illuminating pattern of underlying causes. Bearing in mind that, despite considerations of lay credibility, it is not the goal of public health to explain why one individual rather than another gets a
disease, but to identify mutable factors whose manipulation improves population health.

References


