development, education and employment agencies. It is time to invoke the mantra of an earlier hero of public health (and politics)—Rudolf Virchow—who realised that 'mass diseases require mass solutions.' A global solidarity between public health scientists and practitioners would help us all to remain focused on the main question—what must we do to improve the population's health?

References
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Commentary: Causes of incidence and causes of cases—a Durkheimian perspective on Rose

S Schwartz and R Diez-Roux

Geoffrey Rose's seminal 1985 article ‘Sick Individuals and Sick Populations’ and his 1992 book ‘The Strategy of Preventive Medicine’, have made a huge impact on the fields of epidemiology and public health. A casual Social Sciences Citation Index search yielded over 700 citations of this work. The central lesson that has been integrated into the field is that ‘a large number of people at a small risk may give rise to more cases of disease than the small number who are at high risk’.1(p.37) This insight, which has profound implications for intervention and prevention strategies, has been incorporated into research contexts through an understanding of the difference between measures of absolute and relative risk. But there is another aspect to Rose’s work that has had a more difficult hearing and runs counter to mainstream epidemiological approaches solidified under the risk factor paradigm. This is Rose’s contention that the causes of cases of disease and the causes of disease incidence may be different and require different types of research strategies. In particular he argues that ‘to find the determinants of prevalence and incidence rates, we need to study characteristics of populations, not characteristics of individuals’.1(p.34) This issue has become a central theme in the ‘epidemiology wars’2 with factions sympathetic to Rose’s position arguing that epidemiology has lost its public health relevance because of a myopic concentration on individual-level risk factors.3

Rose’s contention that the key to understanding incidence and prevalence lies in ‘characteristics of populations and not individuals’1(p.34) is, as Charlton’s4 notes, ‘a startling claim’.4(p.607) After all, disease ultimately resides in the individual body and is defined at the individual level. Individual bodies get diseased and become cases. Population incidence itself is merely the averaging of these individual cases across the population. How is it possible, then, that an understanding of the causes of incidence could be different from an understanding of the causes of cases and, more generally, how can the characteristics of a population enlighten us about disease aetiology?

In order to understand Rose’s claim it is essential to examine two key underlying concepts in Rose’s writings: the concept of ‘cause’ and the relationship between wholes and parts. In what follows we will discuss these concepts and then, based on this foundation, indicate five situations where the causes of cases and incidence may deserve distinct treatment.

Two central concepts—cause and the relationship between wholes and parts

Rose’s notion of cause

The distinction between Rose’s view of causation and that of his critics lies not in the types of factors that can be defined as ‘causes’, but rather in the criteria used to create a hierarchy among the participants in the causal process. For Rose’s critics such as Charlton’s5,6 the most important causes, the ones afforded primacy, are those that define the pathophysiology of a disease. These are the causes that come closest to meeting the standard of Koch’s postulates in that they are specific to the disease at hand and found universally, or nearly so, among those with the disease of interest. The priority given to these types of causes is due to the greater scientific certainty and universality with which causal attributions can be made. These causes can be more easily examined with clinical data, manipulated in a laboratory context and are more easily identified in within-population comparisons than more distal, population or social causes. These types of causes, therefore, are given higher

References