The doctrine of specific etiology

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Modern medicine is often said to have originated with various scientific achievements in the late 19th century. At this time, increasing experimental support for germ theory gained favor in the scientific community and overshadowed earlier theories of disease. The success of this theory is typically associated with its commitment to an underlying principle referred to as the "doctrine of specific etiology." This phrase was coined by René Dubos (1959) in reference to the theory's specificity at the level of disease causation or etiology. This notion of specificity is typically interpreted as a monocausal view where particular diseases have single main causal factors. It is difficult to overemphasize the perceived importance of this doctrine. The doctrine of specific etiology is viewed as "the most powerful single force in the development of medicine during the past century" (Dubos 1965, 326), "a singular turning point in the history of medical thought" (Loomis and Wing 1990, 1), "the theoretical core of modern medical ideology" (Downing 2005); the "signature of modern Western medicine" (Mishler 1981, 7); "an assumption central to the medical practice" (Tesh 1988, 122), the "meta-narrative" of modern medical theory (Downing 2011), and a "prototype for explaining most diseases," which has "a lasting preeminence" in medicine today (Aronowitz 1998, 8).

There are a number of puzzles associated with the perceived importance of this doctrine. First, it isn't always clear exactly what is meant by the doctrine of specific etiology. The literature lacks a clear account of the types of specificity present in this model and why they matter. Second, while many scholars interpret this doctrine in terms of a monocausal picture they also admit that most diseases have many causes and, thus, do not fit this view. This is expressed in Dubos' quote from above and in the work of others who claim that the monocausal model has "serious limitations" due to its oversimplification of disease causality (Locker 2003, 19) (Mishler 1981). If the doctrine of specific etiology has these issues it isn't clear why it is viewed as a significant advance in medical theory, which has led to the development of modern medicine. These puzzles raise a number of questions. First, what kinds of specificity are present in this early model of disease? Second, what makes them important and how have they influenced modern medicine, if they have at all?

In this paper I argue that the 19th century germ theory of disease involves two types of specificity at the level of etiology. One type receives significant attention in the literature, but its influence on modern medicine has been misunderstood. A second type is present in this model, but it has been overlooked in this literature. My analysis discusses how these types of specificity led to a novel conception of etiology, which continues to figure in medical theory today. I examine how these types of specificity facilitate disease discovery, classification, and explanation, by serving as basic standards that "legitimate" disease traits are expected to meet. This project is an effort to clarify what has been viewed as "a profound change in ideas about disease causation that occurred in the late 19th century" and how such ideas have had a lasting influence on modern medicine (Kunitz 1987, 379).

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