Review Article

The Philosophy of Natural History and Historiography


Heinrich Rickert was perhaps the first to make a case for a distinct philosophic treatment of Geology, Evolutionary Biology and the other sciences of the non-human past. Rickert reasoned that they are distinct in combining an interest in describing unique events like the historiography of humanity with being value-free like the natural sciences.1 Rickert’s classification of the sciences into four types revises an earlier dualistic classification into ideographic and nomothetic introduced by his mentor Wilhelm Windelband. After the Neo-Kantians, the Positivists advocated a unified view of science. For them, the sciences could be classified as good or bad, but not as different. The debate within the philosophy of historiography shifted then to whether historiography was a “bad” or “different” science.

Derek Turner’s book picks up the debate roughly where the Neo-Kantians had left it. Turner reclassifies the sciences into historical and experimental. Making Prehistory argues for a distinct epistemic status for the historical sciences. Though Turner discusses the limitations on our knowledge of all past events, he discusses exclusively examples from geology, evolutionary biology, paleontology, and prehistoric archaeology, without explicitly explaining why he does not apply his analysis to the historiography of the recent human past. Though he does not argue this point, Turner seems to offer a dualistic division of the sciences that does not consider their subject matters (e.g. human vs. inanimate), but is based on their alleged epistemic limitations.

Realist interpretations of historiography, as developed for example by Murray Murphey and Peter Kosso argue that there is no epistemic difference between our knowledge of the past and our knowledge of the unobservable tiny.2 Murphey

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2) Murray Murphey, Our Knowledge of the historical Past, (Indianapolis: Bobbs-Merrill,
compared the atom with George Washington concluding that both are well supported theoretical entities. Kosso went even further, arguing that as much as Dretske\(^3\) suggested that the very small can be said to be “observed” in a broad sense of “observe,” so can the events of the past. Turner argues against such realist positions that temporal distance entails greater epistemic constraints than distance in size. The historical sciences pose past unobservables distant from us in time, while the experimental sciences pose small entities, unobserved for their size. Consequently, argues Turner, the historical sciences are at an epistemic disadvantage. As Turner concedes, his classification is not exhaustive. Some of the sciences such as geology are about unobservable large objects, e.g. the core of planet earth. Other sciences he does not mention are about observable objects that are distant, like astronomy, and objects that are proximate and fully observable, like Botany and Zoology. Some sciences like cosmology are left in an ambiguous position because their objects that are at once distant in space and time yet are observable.

Turner core argument is that there are two “asymmetries” between the historical and experimental sciences that have serious epistemic repercussions: First, “asymmetry of manipulability”: Past events cannot be manipulated. Microscopic entities are often manipulated in the laboratory. Second, according to the “asymmetry of background theories,” in the historical sciences background theories infer the destruction of evidence generated in the past about past events over time, whereas in the experimental science, background theories infer new evidence, prepare expectations for finding new evidence and direct scientists where to look for it. Turner’s unfortunate example is of the color of the dinosaurs. Taphonomic background theories predict that no pigmentation would be preserved in the process of fossilization. Turner inferred then that we would never have evidence for the color of the dinosaurs that would preserve information from their era about their color.

The presumption of these two asymmetries lead in Turner’s opinion to a greater degree of local underdetermination in the historical sciences than in experimental science. By local underdetermination, he means a situation when multiple hypotheses have the same empirical consequences. This is distinct of Quine’s global underdetermination of all theories. Local underdetermination allegedly results from fixed constantly diminishing body of evidence in the historical sciences. By contrast, in the experimental sciences, background theories can generate new evidence to decide among competing theories.
