

POSITIVIST PARADIGM

Positivism emerged as a philosophical paradigm in the 19th century with Auguste Comte's rejection of metaphysics and his assertion that only scientific knowledge can reveal the truth about reality. It was later formally established as the dominant scientific method in the early part of the 20th century by members of the Vienna Circle, including Gustav Bergmann, Rudolf Carnap, Herbert Feigl, Philipp Frank, Karl Menger, Otto Neurath, and Moritz Schlick.

The Vienna Circle sought to construct a *unified scientific world-conception* that rejects the use of philosophy as a means of learning about the true nature of reality. Unfortunately, it failed as a coherent philosophy of science because of a critical inconsistency between its theory of "reality" and its theory of "knowledge."

Positivism adopted David Hume's theory of the nature of reality (i.e., philosophical ontology). Hume believed that reality consists of atomistic (micro-level) and independent events. He believed in the use of the *senses* to generate knowledge about reality (i.e., scientific method). He thought that philosophical and logical reasoning could lead us to "see" nonexistent links between events occurring simultaneously. However, positivism also adopted René Descartes's epistemology (i.e., theory of knowledge). Descartes believed that *reason* is the best way to generate knowledge about reality. His deductive method implies that events are ordered and interconnected, and therefore reality is ordered and deducible. This internal inconsistency eventually undermined the validity of positivism.

The positivist paradigm asserts that real events can be observed empirically and explained with logical analysis. The criterion for evaluating the validity of a scientific theory is whether our knowledge claims (i.e., theory-based predictions) are consistent with the information we are able to obtain using our senses. Positivist research methodology (methodological individualism) emphasizes micro-level experimentation in a lablike environment that eliminates the complexity of the external world (e.g., social, psychological, and economic linkages between unemployment, and crime or suicide). Policies are then prescribed based on conclusions derived via the "scientific method" (e.g., job training for the unemployed, antidepressants for the suicidal, and jail time for the criminal). Psychologists now realize that this yields results that have internal validity (i.e., the relations observed in the experiment are valid within

that context). While the results obtained using experimental methods provide valuable insights into the nature of reality, those results may lack external validity. That is, the relations observed in the laboratory may not be the same in the more complicated external world where a much greater number of factors interact.

A positivist dealing with complex social problems such as unemployment and crime would be concerned with their visible manifestations (i.e., the unemployed individual or criminal who can be sensed or perceived) rather than with the underlying causal mechanisms that are invisible to us. Hence, positivist prescriptions tend to treat the symptoms rather than the root cause of the problem.

Positivism exerted an important influence on scientific practice in the social sciences for decades in the early 20th century. This was especially true in the natural sciences where laboratory experiments can closely approximate the real world environment, thus allowing for accurate predictions. In the social sciences, however, human volition and uncertainty make the laboratory experiment less reliable. Ultimately, its internal inconsistency resulted in the abandonment of positivism in favor of scientific approaches such as *critical pluralism*, which is based on the belief that no one approach is ever sufficient for developing a valid understanding of a phenomenon. The application of critical judgment in investigating multiple research questions using multiple measures, samples, designs, and analyses are necessary to permit a convergence on a valid understanding of a phenomenon.

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See also Behavioral Observation Methods, Assessment (v1); Evidence-Based Treatments (v2); Empirically Based Professional Practice (v1); Psychometric Properties (v2); Qualitative Methodologies (v1); Quantitative Methodologies (v1)

Further Readings

- Descartes, R. (1998). *Discourse on method and meditations on first philosophy* (4th ed; Donald A. Cress, Trans.). Indianapolis, IN: Hackett. (Original work published 1637)
- Hume, D. (1993). *An enquiry concerning human understanding* (2nd ed.; Eric Steinberg, Ed.). Indianapolis, IN: Hackett. (Original work published 1777)
- Neurath, O. (1973). The scientific conception of the world: The Vienna Circle. In M. Neurath & R. Cohen (Eds.), *Empiricism and sociology*. Boston: Reidel.