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Ontology and epistemology pdf

Katie Moon and Deborah Blackman Katie Moon (biography) How can understanding philosophy improve our research? How can understanding what frames our research affect our choices? Do the researchers' personal thoughts and beliefs shape research design, outcomes and interpretation? These questions are important for the research of social sciences. Here we present a philosophical guide for scientists to help produce effective social sciences (adapted from the Moon and Blackman, 2014). Deborah Blackman (biography) Understanding philosophy is important because social science research can only be meaningfully interpreted when there is clarity about decisions that have been made that affect research results. Some of these decisions are based, not always knowingly, on some key philosophical principles, as stated in the figure below. Philosophy provides general principles of theoretical thinking, a method of cognition, perspective and self-awareness, all of which are used to acquire knowledge about reality and to design, conduct, analyze and interpret research and its outcomes. The figure below shows the three main branches of philosophy that are important in science and serve to illustrate the differences between them. A guide to the research of social sciences consisting of ontology, epistemology and philosophical perspectives. When read from left to right, the elements take on a multidimensional nature (e.g. epistemology: objectivism to subjectivism). The elements within each branch are placed according to their conicality with elements from other branches so that when read from top to bottom (or from bottom to top), elements from one branch align with elements from another (e.g. critical realist ontology, construction epistemology and interpretive philosophical perspectives). Subcategories of elements (i.e. 3:5a-c and 3:6a -c) are interpreted as positioned in the parent category (i.e. 3:5 interpretivism and 3:6 critical theory). (Source: Moon and Blackman 2014)

Ontology The first branch is ontology, that is, the 'study of beings', which deals with what actually exists in the world about which people can gain knowledge. Ontology helps researchers identify how confident they can be about the nature and existence of the objects they are investigating. For example, what truth claims can a researcher say about reality? Who decides the legitimacy of what's real? How do researchers deal with different and competing ideas of reality? For illustration, realist ontology refers to the existence of a single reality that can be studied, understood, and experienced as truth; the real world exists independently of human experience. Meanwhile, relativistic ontology is based on the philosophy that reality is built in the human mind, so there is no 'real' reality. Instead, reality is 'relative' to how individuals perceive it at any given time and place. Epistemology The second branch is epistemology, study finds Epistemology deals with all aspects of validity, scope and methods of acquiring knowledge, such as a) which constitutes a claim to knowledge; b) how knowledge can be acquired or produced; and c) how the extent of its portability can be estimated. Epistemology is important because it influences how researchers frame their research in their attempts to discover knowledge. By looking at the relationship between subject and object, we can explore the idea of epistemology and how it influences the design of research. Objectivist epistemology assumes that reality exists outside or independently of the individual mind. Objectivist research is useful in providing reliability (consistency of results obtained) and external validity (applicability of results to other contexts). Construction epistemology rejects the idea that objective 'truth' exists and waits to be discovered. Instead, 'truth', or meaning, arises in and out of our engagement with realities in our world. That is, the real world does not exist independently of human activity or symbolic language. The value of construction research is in generating contextual understandings of a defined topic or problem. Subjective epistemology refers to the idea that reality can be expressed in a series of symbols and language systems, and is stretched and shaped to suit the purpose of individuals so that people impose meaning on the world and interpret it in a way that makes sense to them. For example, a diver can interpret the shadow in the water according to whether they are alerted to a shark in the area (shark), waiting for a boat (boat) or expecting a change in weather (clouds). The value of subjective research is in discovering how an individual's experience shapes their perception of the world. Philosophical perspectives derived from ontology (what exists for people to know) and epistemology (how knowledge is created and what is possible to know) are philosophical perspectives, a system of generalized worldviews, that form the beliefs that guide action. Philosophical perspectives are important because, when explicit, they reveal assumptions that researchers make about their research, leading to choices that apply to purpose, design, methodology and research methods, as well as data analysis and interpretation. To the most basic level, the very choice of what to study in science imposes values about what we can know, what we can learn and how this science is essential to ensure that research results are interpreted appropriately and meaningfully. With increasing interdisciplinary research, examining points of difference and intersection between philosophical approaches can generate critical reflection and discussion about what we can know, what we can learn and how this knowledge can influence the management of science and consequent decisions and actions. How it does it philosophical attitude to influence your research? What are your experiences of clashing philosophical perspectives in interdisciplinary research? How did you become aware of them and solve them? Do you think researchers need to recognize different philosophies in interdisciplinary research teams? To learn more: Moon, K., and Blackman, D. (2014). A guide to understanding social science research for natural scientists. *Conservation Biology*, 28: 1167-1177. Online: Biography: Katie Moon is a postdoctoral research fellow at the University of New South Wales, Canberra. It is also a supplement to the Institute of Applied Ecology at the University of Canberra. She has worked in environmental policy for 17 years within Australia and Europe, in government, the private sector and academia. Her research focuses on how the right policy instruments can be paired with the right people; the role of evidence in policy development and implementation; and how to increase the success of policy implementation. Biography: Deborah Blackman is professor of public sector management strategy and deputy director of the public service research group at the University of New South Wales in Canberra. It explores the transfer of knowledge in a series of applied, real contexts. A common theme of her work is the creation of new organizational talks to improve organizational efficiency. This included strengthening the performance management framework in the Australian Public Service; the role of social capital in long-term disaster recovery; and the development of a new diagnostic model to support effective teaming of work throughout government initiatives. Related Posts: Guide to Interdisciplinary Researchers: Adding Axiology alongside Peter Deane's Ontology and Epistemology Epistemological Barriers to Interdisciplinary Research by Evelyn Brister <https://i2insights.org/2018/11/13/transdisciplinarity-and-either-or-thinking/> Transformation of Transdisciplinarity: Intertwining Philosophical with Pragmatic Movement Beyond Either/or the Thinking of Katie Ross and Cynthia Mitchell What is the role of theory in transdisciplinary research? By Workshop Group on Theory at 2015 Basel International Transdisciplinary Conference Ontology and Epistemology Ontology: A Branch of Metaphysics (a philosophy relating to the overall nature of what things are) deals with identifying, in the most general terms, the kinds of things that actually exist. In other words, speaking of the question: What is existence? and what is the nature of existence? When do we ask deep questions about what is the nature of the universe? Or is there a god? or What happens to us when we die? or What principles properties of matter? we ask inherently ontological questions. Epistemology: The branch of philosophy dealt with the nature of knowledge itself, its possibility, scope and general basis. More broadly: How do we know things? or How do we separate the right ideas from false ideas? or how do we know what the truth is? or How can we be sure when we find the 'truth'? What are the systematic ways in which we can determine when something is good or bad? So ontology is about what is true and epistemology is then about methods of discovering these truths. The division between Plato and Aristotle is both ontological and epistemic. The division of religion and science is both ontological and epistemic. For example, religion and science offer two very different ontologies (theories about what's out there) and epistemology (ways to figure out what's out there). And the division between Plato and Aristotle corresponds precisely to the division of religion and science... and you should leave this class understanding why and how! Watch Plato v Aristotle Aristotle