

## Scientific Worldview Studies: A Programmatic Proposal Ann Taves and Egil Asprem

Authors' Note: Initially we planned to write a methodological piece on explanation, but in the end decided we wanted to develop a more programmatic statement that reflects our range of interests and our sense of how we might re-envision our field. Our focus here is on the conceptual advantages that would accrue if we were to conceive our discipline more broadly as Worldview Studies with an emphasis on the scientific study of their emergence, development, and function. We realize that implementing such a vision would raise many practical questions at the level of departments and divisions in universities in the U.S. and Europe, so present this primarily as a vision that could shape both our research and our teaching.

### Introduction: The Concept of Worldviews

We argue that “worldview” should replace “religion” as the operative analytical concept in our discipline. The benefits are several. It will allow us to (1) conduct our analytic, comparative, and explanatory work without worrying about (a) defining religion or (b) whether those we study consider themselves religious; (2) examine the interplay between explicit, reflective worldviews and everyday ways of life especially in situations where something new or unexpected occurs; and (3) ground the interaction between explicit, reflective worldviews and everyday ways of life in the sub-personal appraisal processes that are operative not only in humans, but in other animals, and even in plants and microbes. In short, we envision a scientific worldview studies that grounds human meaning-making capacities in species-independent biological processes.

Like any other concept in the study of religion, the notion of “worldview” carries historical baggage. The term has served a broad range of academic, political, and polemical purposes since it was first coined in German by Immanuel Kant in his *Critique of Judgment* (1790) and given a theoretical meaning in the works of Wilhelm Dilthey. Some of these are compatible with our own agenda, others run counter to it. Our proposal is in line with recent scholars of religion who have suggested the worldview concept as a way to position their object of study within a larger framework (e.g. Smart 1999; Juergensmeyer 2009; Droogers 2014). We depart from these scholars, however, by pushing the concept in a more radical, naturalistic direction.<sup>1</sup> In doing so, we also break with some important features of the hermeneutical tradition as developed by Dilthey and his heirs. Since it is this latter aspect – our philosophical disagreements with the hermeneutical approach – that is likely to cause most concern among our audience, we will say a few words about where, and why, we part ways with it.

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<sup>1</sup> Below we discuss Dilthey and the hermeneutical tradition in some detail. We also acknowledge, but will not presently discuss, the significant influence of Christian apologists in popularizing the worldview concept in recent studies of religion. This bias is even visible in some key historical overviews (e.g. Naugle 2002; Sire 2014).

The word *Weltanschauung* was first used by Kant in the *Critique of Judgment* (I.2 §26), but it was Dilthey who developed it into a theoretical concept, as a part of his attempt to create an epistemological foundation for the humanities – more specifically, for the study of art, religion, and philosophy (see Dilthey 1931; Ermarth 1978). To him, worldviews were ultimately rooted in the encounter between the “philosophical spirit” (“der philosophische Geist”) and the perennial “riddle of existence” (“Rätsel das Daseins”) (Dilthey 1931: 206), but without limiting this encounter to *academic* philosophy. Instead, worldviews are akin to an “intuition that emerges from being immersed in life itself” (ibid.: 99).<sup>2</sup> Studying worldviews was therefore an attempt to understand “life as it is lived by humans” – a task Dilthey saw as a pressing contemporary concern (ibid.: 78).

Dilthey, then, did not develop his “science of worldviews” (*Weltanschauungslehre, Wissenschaft der Weltanschauung*) merely as a foundation for a science of human life, but specifically in response to the “crisis of historicism” that was casting doubt on all philosophical systems (ibid.: 75-78; Ermarth 1978; Bambach 1995). Instead of a search for timeless truths, Dilthey offered a *metaphilosophy* (a “Philosophie der Philosophie”) of worldviews, in the shape of a systematic investigation of ways in which people experience life and express their experiences culturally – whether in literature, philosophy, or religion. *Weltanschauungslehre*, he thought, could not promise absolute truths, but by taking the inquisitiveness of the human mind as its primary focus it could nevertheless provide valuable insights through the range of answers people have given to questions of enduring relevance.

We have a great deal of sympathy for Dilthey’s overall project. Where we part ways is in the strict separation between the sciences and the humanities, and the connection of worldviews to *conscious* human experience, to will and choice, and to cultural virtuosi (e.g., the “poetic genius” and “the great philosopher”). The separation between a science of the physical world and a science of human beings was grounded in Kant’s epistemology, which – on an ironic Diltheyian reading – was itself determined by the historically contingent state of the sciences in the late-18<sup>th</sup> century, a period characterized by Newtonian-Laplacian orthodoxy in physics and cosmology, and a pre-Darwinian understanding of biology that still found mechanistic explanations inadequate to account for the phenomena of life and mind. Moreover, while Dilthey did not deny the psychological foundations of worldviews expressed through history, he denied that psychological knowledge could serve any *explanatory* function in this regard. The central “psychological fact” for the worldview scholar, according to him, was the will, and the will, he held, could never be dissected in the psychologist’s laboratory (Dilthey 1931: 15). We part ways with Dilthey by naturalizing worldviews and connecting them to a cognitive and ultimately biological explanatory scheme. We see the basic building blocks of worldviews as emerging from natural selection even at the earliest stages of evolution.

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<sup>2</sup> “... jede echte Weltanschauung [ist] eine Intuition, die aus dem Darinnensein im Leben selbst entsteht.“

Finally, we note that subsequent thinkers developed the worldviews concept in two conflicting directions: a *worldview determinism*, on the one hand, and a *separation* of science and worldview, on the other (see Wolters 1983). Quite contrary to Dilthey himself (see Ermarth 1978: 327), the first of these holds that all knowledge-production, including science itself, is sufficiently determined by historically based worldviews, so as to delegitimize any claim to “objectivity” (see Zammito 2004). Ironically, this development could be cast as a relapse into the crisis of historicism to which Dilthey had responded. The opposite view is associated with the neo-Kantian influence on social science: it emphasizes the strict separation of facts and values, associates values with worldviews and facts with science, and insists that science is (or ought to be) entirely “value-free” (see Chiaffa 1998). Here, worldviews are entirely disconnected from facts, observations, and theories: they are something that people *choose* – even to the extent of having to commit an “intellectual sacrifice”, as Max Weber insisted (Weber 1946: 155; cf. Asprem 2014: 32-40). Any attempt at grounding worldviews in science (or values in facts) is seen as illegitimate. We seek a conceptualization of worldviews that steers clear of both these extremes (see also Asprem 2014: 80-89). We hold that a naturalistic perspective that embeds worldviews in evolution achieves this: worldviews are, on this view, the origins not only of values and meaning, but also of objectivity and the search for truth.

#### Worldview Studies

Our sympathies and differences with the founding father of worldview studies (Dilthey) are directly relevant for how we would respond to the proposals of more recent champions of this prospective discipline, such as the cultural anthropologist André Droogers (2014). Like Droogers, we are interested in studying the entire range of worldviews without worrying about whether they are religious or not. Like him, we are interested in both the explicit, highly rationalized attempts to address ultimate questions often studied by philosophers and scholars of religion and the implicit answers in taken for granted ways of life more commonly studied by anthropologists. Finally, we too are interested in worldview “dynamics,” which Droogers understands as a meaning making process through which “people produce, use and reproduce repertoires of meaning, according to circumstance, within or outside the boundaries of [particular] ‘cultures’ (in the plural sense), and using their own strategies in dealing with the powers that be” (Droogers 2014: 21). Human meaning-making processes are thus embedded in social relations and power dynamics.

We want to break, however, with Droogers’s top-down approach to defining worldviews, which he views as distinctively human cultural creations grounded in our exceptional meaning-making capacity, an approach that, as he acknowledges, emphasizes the differences between humans and other animals (ibid.: 18-19). While we recognize these differences, we think that the scientific study of worldviews will benefit if we focus instead on the commonalities between humans and other animals in order to generate a definition of worldviews from the bottom up. We start from the premise that both the explicit, reflective, logically coherent worldviews that have been of particular interest to philosophers and scholars of

religion and the ways of life that have long interested anthropologists are reliant on *implicit, intuitive, nonlinguistic and nonconscious processes of making sense of “the world”*.

*World:* The “world”, in this context, is indexical, always constituted from a point of view. The individual organism constitutes its world in light of the parts of the environment that are practically *relevant* (cf. Apostel and Van der Vee’ken 1991). It is what phenomenologists would refer to as an organism’s “life-world” (*Lebenswelt*). In the language of cognitive science, a world is constituted by a *world-model*, which arises from basic *predictive processes* that organisms use to make sense of and navigate in their environments (see Clark 2016).

*Ways of life:* A way of life designates the organism’s habitual patterns of interaction with its life world. How an organism interacts is premised on its means of orienting itself, i.e., on the nature and complexity of its sensory and cognitive apparatus. An organism is linked indexically to its environment via a self-model (on the lines of Metzinger 2003, 2007), which allows it to establish relevance and, thus, to generate a world-model. The organism’s models of self and world are constantly updated through predictive, self-correcting interaction with the environment. These interactions are goal-directed and thus already concerned with values and appraisals, albeit on a very rudimentary and automatic level. In this sense, as Vidal (2008) indicates, even a bacterium has what we would call a world-model. Simple robots capable of navigating independently through space and modify their actions in light of sensory inputs are also members of the world-modeling club (Metzinger 2007). Depending on the complexity of the organism, these ways of life may be transmitted through various combinations of genetics, imitation, and learning.

*Worldviews:* Like Droogers (2014) and many others, we define worldviews in terms of big questions, such as (1) ontology (what exists, what is real), (2) epistemology (how do we know what is true), (3) axiology (what is the good that we should strive for), (4) praxeology (what actions should we take), and (5) cosmology (where do we come from and where are we going). In contrast to Vidal (2009), who extends worldviews and their associated big questions to other animals, we introduced *ways of life* as a mediating term that allows us to identify implicit answers to big questions in the behavior of other animals without claiming that they have (explicit) worldviews. These embedded answers are situational, episodic, and expressed behaviorally in terms appropriate to the organism. Humans, as far as we know, are the only species that reflect on these questions and attempt to rationalize and systematize their answers.

*Big Questions:* We can demonstrate the presence of implicit answers to the BQs, even in very simple organisms, by expressing the big questions in the language of predictive coding:

Big Question	Translated into the Language of Predictive Coding
Ontology What exists?	When an organism constructs a percept, it actively appraises incoming information against predictions (based in genetics and/or prior experience) in order to guess “what is”. [It creates a world-model]
Axiology What is good and bad?	Good and bad are defined in relation to the organism’s goals, both proximate and ultimate. [...in relation to a self-model]
Praxiology What does the organism do? How does it act?	It acts in accord with its goals and values (axiology) and its best prediction of what is (ontology). [that enables goal-directed action]
Epistemology How does it know what is true about the world?	It tests “what is true” through probability-based interactions with the environment that determine “what works” for the organism to survive and move efficiently. [feedback from actions]

Just as we can find implicit answers to the BQs embedded in an organism’s way of life, so too can we view the appraisal processes that generate percepts out of available information as a (proto)“meaning making process” and the predictions themselves as “meanings made” or implicit “beliefs” (Paloutzian cite?). Viewed in these terms, we can ground explicit linguistic processes of meaning making and belief construction in processes that humans share with other animals.

If, as Barrett (2015) suggests, it is because animals *move* that they evolved the abilities associated with minds, we see how the interaction between these two distinctive features of animals – goal directed action and mental abilities (however rudimentary) – could give rise to increasingly complex models of the world. These implicit processes are the foundation from which our explicit, linguistic world-orienting capacities evolved and upon which they still depend. Because these implicit and explicit processes interact in humans, any account of the meaning-making process needs to take them both into account.

We view the BQs that worldviews typically address as extensions of the more general and basic world-modeling capacity. The similarities we see in the “big questions” that people ask across times and cultures are a result of their grounding in this evolved capacity to orient in the world, just as the variations stem from highly cultivated, reflective practices that are often codified and institutionalized in social formations (including oral traditions), the production and interpretation of scriptures, and/or philosophical schools. While we recognize that some people may attempt to live their lives totally in accord with an explicit worldview, whether religious or scientific, we would maintain that even in those cases much of their behavior is still governed by an implicit way of life. Moreover, whatever mixture of explicit worldview and implicit way of life an individual or group embraces, they are still reliant on evolved *implicit, intuitive, nonlinguistic and nonconscious processes of meaning making*.

The Scope of Worldview Studies: Worldview Studies as we envision it may have many branches and foci, but would preclude artificial distinctions between

philosophical, religious, secular, and scientific worldviews in so far as they answer fundamental questions with respect to human life in the world. This expanded scope would allow worldview researchers to sidestep the difficulties inherent in deciding if (say) Western esotericism or Eastern philosophical systems are “religions” or whether they should cede Aristotle and Confucius to the philosophers and/or the historians of science. It would also provide a straightforward way to characterize the recent interest in the study of nonreligion and secularity, i.e., as the study of nonreligious or secular worldviews (Taves 2016).

Worldview Studies would include the study of both worldviews and ways of life on the grounds that the two are invariably intermixed. Recognition of this inevitable mixing would allow researchers to avoid dichotomizing literate and non-literate cultures, virtuosi and ordinary practitioners, and researchers and subjects. Doing so would allow us to study the contexts in which people come to reflect on their way of life and become more conscious of their worldview. The study of this process would fall under the heading of worldview dynamics.

Worldview Dynamics: Worldview dynamics, as Droogers (2014, 24-26) contends, should include both the study of worldviews (as constructed) at any given point in time and the meaning-making processes through which people create and develop worldviews over time. Building on Berger and Luckmann’s (1967) model of the social construction of reality through processes of internalization and externalization, Droogers encourages us to theorize both the emergence of new worldviews and the maintenance of established ones. While historians and social scientists have devoted much attention to the rise, development, and transmission of worldviews, these processes take on additional complexity when viewed in light of the underlying cognitive processes that enable their production.

In distinguishing between worldview and way of life, we want to highlight the extent to which people (and peoples) may develop world models without reflecting on the fact that they are doing so. As Berger and Luckmann were well aware, we typically do not recognize the extent to which we are internalizing a sense of reality that has been socially constructed. At the same, however, we typically do not recognize the extent to which our minds have evolved to learn to make predictions based on the information in our environments. These processes interact in complex ways and are the focus of much current research. Psychological research on meaning making processes allows us to take a closer look at worldview dynamics.

#### Meaning Making Processes

Until recently, psychologists have viewed “meaning” as too difficult to operationalize and as a result devoted little explicit attention to meaning making processes (Dmetriev 2013). Recently, however, researchers in a range of different psychological disciplines are “comprehending themselves as working toward a common understanding of how it is that people come to understand themselves, their environment, and their relationship to their environment” in terms of “sense making” (Markman, Proulz, and Lindberg 2013, 4).

Due to its focus on human responses to stressful events, the meaning systems framework (MSF) that grew out of Lazarus and Folkman’s (1984) research on stress

and coping provides an effective bridge between the overt, conscious processes of meaning making typically studied by humanists and the more rudimentary, typically unconscious processes studied in other animals. In a highly cited article, Park and Folkman (1997) made a foundational distinction between two levels of meaning: a global meaning system (GMS) and situational meanings (SM). MS researchers characterize a global meaning system in terms of beliefs (regarding the world, the self, and the self-in-world), goals, and subjective sense of meaning or purpose. Although researchers recognize explicit religious and/or spiritual beliefs as a major source of global meaning (Park 2005; Paloutzian and Park 2005, 2014), the MSF does not assume that GMS are necessarily explicit, coherent, or well developed. A GMS, thus, encompasses both **worldviews** and **ways of life**.

If, following Baumeister (1991, 15, quoted in Dmetriev, 466), meanings are “mental representations of possible relationships among things, events, and relationships,” then meaning or sense making involves the establishment of linkages or relationships between things. In this framework the GMS provides a higher order set of linkages that people draw upon to relate particular situations to other things, thus making sense of them.

Because the MS researchers have used the meaning system framework primarily to study coping in situations of trauma, loss, and bereavement, they have focused on “situations” where discrepancies between global and situational meanings are likely to emerge. We can enlarge our sense of situational meaning by recognizing that everyday life is a series of situations or events, most of which people experience as quite ordinary and unremarkable within the context of their overarching worldview or way of life. These ordinary, unremarkable events are appraised, but because they are expected and predictable, the appraisals take place unreflectively and mostly unconsciously. Events that *break* with expectations, whether on a physical, affectual, or social level, are likely to bring appraisal processes to conscious attention (Taves and Asprem 2016).

#### Metareflection on the Scientific Study of Worldviews

Dilthey's science of worldviews was conceived in response to the crisis of historicism, which called into question the universal validity of philosophical systems. As an antidote to creeping relativism in matters of meaning, morals, and taste, it provided a metaphilosophy that sought to explore the connections between historically situated worldviews and “life as it is lived”. The notion of worldview that we have sketched here goes both deeper and wider. Deeper, in that we ground them in world-modeling capacities found at very primitive stages of life itself, and wider, in that worldviews are not only about meaning, values, or aesthetic judgments, but also about facts, explanations, and predictions. At first sight, this may appear like breaking a protective barrier that saves objective science from the relativity of history. This, we submit, is not the case: by grounding worldview-making in the evolutionary process, we highlight that scientific values, such as objectivity and truthfulness, originate as survival strategies for organisms attempting to get as good as possible at mapping their world and making it work to their advantage. Moreover, their grounding in natural processes guarantees a basic continuity,

translatability, and commensurability of all worldviews. This realization calls for some important metareflections.

First, it calls us to acknowledge and reflect on the often explicit clash between the scholars' worldviews and those of whom they study. This divergence can be construed in many cases as a clash of *explanations*, which we typically characterize as the clash between emic / "folk" explanations and etic / "scientific" explanations. The worldview of the worldview scholar must provide second-order explanations of the explanations implicit in the worldviews they study. As scholars, we thus produce explanations that break with those of our subjects, and which we believe to be *better* explanations of the phenomena in question, given the epistemic norms and values embedded in our academic worldview. But, this is not to say that an academic worldview offers the best or even adequate guidelines for living life as a whole. It certainly does not privilege the worldview scholars' worldview in an evolutionary sense. We may find that some types of worldviews enhance the survival of individuals or groups whether or not their claims are scientifically verifiable. Other things being equal, the perceived support of a higher power may improve the survival value of the group from an evolutionary vantage point, even if a scientific and humanist worldview deems such a belief irrational.

Second, acknowledging that our explanations are crafted in light of the values and norms of an academic worldview highlights the context in which those explanations are judged "better." Because academic (and especially scientific) norms have been hammered out across cultures and in encounter with the same culture-independent natural world, they may have particular value for mediating between cultures and solving problems that apply globally. Learning to research and teach about worldviews in an even-handed fashion may have value for mediating between worldviews in broader cultural contexts. An evolutionary perspective on worldviews may help us to identify what we hold in common even as we explore our differences. These, however, are merely predictions, which will need to be tested in practice.

Third, if we push these reflections deeply enough, we find that the worldview of the worldview scholar is not limited to finding "the truth" about worldviews and explaining them. It will also contain orientations for surviving in an academic environment, for achieving work-life balance, for being a citizen in a society and for relating to other people. As scholar-scientists, we will have values related to "good worldview scholarship" that will influence how we orient in the world beyond our workspace. Vice versa, as citizens, partners, parents, friends, etc., we will have values that influence our scholarship. Which problems we choose to study, for example, may often be influenced by extra-scientific elements of our worldviews – whether political, personal, or spiritual. This is exactly as it has to be. The implications of worldview studies thus require a high level of reflexivity, which, unlike most calls to reflexivity in our discipline, reflects on the fact that we are all *animals* trying to figure out what is true, what is good, and how to tell the difference.

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