

Friday, June 26 9-12 AM, rm. 148

Symposium

**Finding Reconciliation: Science, Religion, and Method in the Nineteenth Century.**

Peter M J. Hess “Evolution: The Range of Responses in Late Nineteenth-Century England and America”

Patrick McDonald “Accommodating Naturalistic Method and Anti-Naturalistic Worldviews: Lotze and Fechner.”

Michael Heidelberger. “Emile Boutroux on Science and Religion”

Robert J. Deltete “Pierre Duhem’s ‘Physique de Croyant’”

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**Introduction.**

In the nineteenth century the increasingly mature and independent fields of natural and human science forced scientists and religionists to re-cast their thinking on the mutual relationship of science and religion. We wish to investigate how this engagement informed and shaped the conceptions of science of a number of methodologically reflective scientists and philosophers who attempted to find harmony between science and religion. On the one hand there was a tendency for religiously minded scientists to recognize the growing independence of science, methodologically and otherwise, from religious belief/practice. The century did indeed reveal a tendency in various sciences to become what is now called methodologically naturalistic. On the other hand, there are important aspects in which religious belief continued to have significant impact upon conceptions of science, upon the aims and methods of science, and at times upon the content of science. Thus it seems premature to name the nineteenth century as the decisive turning point in the emergence of an undisputed independence model of science and religion.

Recent scholars have convincingly argued that the warfare or conflict metaphor between science and religion is fatally flawed. In its place, the most viable candidate metaphors seem to be: independence (science and religion [S & R] have their own distinct, non-overlapping domains); dialogue (S & R have own domains, but engage in genuinely informative and fruitful dialogue on important matters of mutual concern); and integration (S & R are in some sense mutually integrated – science is simply part of a broader class of religious knowledge, or vice versa). We will examine the impact of reconciliation projects upon scientific methodology from the perspective of three distinct scientific domains – natural history/biology, psychology, and physics – as well as from several distinct national traditions in Europe and North America. We will not provide a comprehensive picture of the interaction of science and religion methodologically. However it will

be clear that there were a range of responses to the difficult task of reconciling the distinct regions of human knowledge and belief – not simply conflict or total independence.

Peter Hess will discuss the methodological importance of alternatives to the warfare rhetoric in the reception of Darwinism among theists in the English speaking world. More specifically, Hess will examine four responses to Darwin by religiously inclined scientists, namely St. George Jackson Mivart, Asa Gray, Henry Drummond, and William Dawson. Each response attempted to integrate Darwin's contribution into a theoretical perspective on the history of life that reconciled the science with the theological commitments of the scientist. The four responses are unified in their attempt to construct a middle way between conflict and independence views and, as such, bring religious commitments directly to bear upon the evaluation of scientific hypotheses.

Patrick McDonald will discuss methodology in the emerging field of physiological psychology – particularly the work of Hermann Lotze and Gustav Fechner. He will discuss their conceptions of the human soul and mind as informed by theological and philosophical commitments. McDonald will show how they balance two interests: recognition of the robustly empirical foundation of investigations into the mind (here a leaning towards methodological naturalism – or at least a form of empiricism) and their commitment that the human soul cannot be explained purely in terms of mechanistic materialism. Each addresses this problem by distinguishing the proper scope of science from that of philosophy and theology. Lotze more explicitly integrates his metaphysical commitments into the content of the science of the mind, while Fechner's identity theory allows two distinct perspectives (one empirical, one metaphysical and religious) to approach the very same thing.

France had seen a deeply difficult cultural battle regarding the proper roles of science and religion in French intellectual and philosophical life. Michael Heidelberger's paper will cover the outlines of this engagement through the lens of Émile Boutroux's articulation of a "spiritualist" approach to relating science and religion. Boutroux's spiritualist conception has its origins in his 1874 dissertation, but was shaped over the next 30 years by his engagement with Ritschl, Du Bois-Reymond, Duhem, Poincaré, and William James. His view that laws of nature are the freely reasoned creations of the human mind created a logical space in which both empirically based scientific research and extra-empirical metaphysical and religious commitment could live harmoniously. It also importantly influenced the conceptions of science developed by Duhem, Poincaré, and James.

Rob Deltete will discuss Pierre Duhem's delicate strategy of reconciling his theology and his physics. Duhem found himself at the eye of the cultural battle in Republican France and was forced to engage partisans of the conflict thesis head-on. Duhem's *Physique de Croyant* represents Duhem's focused attempt to articulate clearly the relationship between physics and metaphysics. His "compartmentalist" solution holds that physics has no deep consequences for metaphysics, and as such, cannot impinge upon such commitments either positively or negatively. Deltete will show how Duhem's view of the methodology and content of physics and metaphysics allows for reconciliation without trespass, yet raises some difficult questions of where exactly the border lies.

Ernan McMullin has agreed to chair the session and retains the option of adding a short commentary.

## ABSTRACTS

**Dr. Peter M J. Hess** “Evolution: The Range of Responses in Late Nineteenth-Century England and America”

Critical historiography has shown that although the idea of biological development was hardly novel in 1859, Darwin’s elaboration of a detailed theory of evolution had the intellectual impact of an earthquake. The prospect of a parade of species passing into and out of existence over countless millennia constituted a threat of major proportions to received wisdom about the fixity of all living kinds. A dynamic universe radically altered the vectors of the conversation between science and religion, placing at stake the intelligibility of traditional doctrines about divine design, about the problem of evil, and about the very purpose and meaning of human life.

This paper will examine four responses from religiously inclined scientists to the wider implications of Darwin’s evolutionary theory. The English biologist and Catholic convert St. George Jackson Mivart (1827-1900) expounded his own theory of evolution in his *Genesis of Species* (1871), presenting arguments important enough for Darwin to pay serious attention to in subsequent editions of the *Origin of Species*. Among Mivart’s challenges to a thoroughly naturalistic evolution was his placing of a protective belt around the creation of the human soul, in order to integrate biological evolution with Roman Catholic doctrine. Asa Gray (1810-1855) was a vigorous American appropriator of evolution, who developed an ultimately untenable view that it has developed in ways ordained by providence. The liberal Scottish evangelical, Henry Drummond (1851-1897), adopted a concordist approach to science and religion, in particular with respect to the evolution of morality. One of the last of the nineteenth-century harmonizers, the Canadian geologist William Dawson (1820-1899) attempted to integrate religion and science by defending a creationist day-age position. This paper will evaluate the success of these representative responses to Darwin, both with respect to the depth of their understanding of science, and as concerns the integrity and coherence of the religious world views they attempt to articulate.

**Patrick McDonald** “Accommodating Naturalistic Method and Anti-Naturalistic Worldviews: Lotze and Fechner.”

The field of physiological psychology experienced a dramatic emergence in the middle of the nineteenth century. Two important contributors both to the methodological vision of the new psychology and to its content were the German philosopher/scientists Hermann Lotze (1817 – 1881) and Gustav Theodor Fechner (1801 – 1887). I explore how each articulated a view of naturalistic method in psychology while developing incisive critiques of materialist metaphysics. More specifically, I will explore how they balance two interests: recognition of the robustly empirical foundation of investigations into the mind and their commitment that the human mind and soul cannot be explained purely in terms of mechanistic, physical processes.

Recently the intelligent design debate has raised anew old questions regarding demarcation criteria between science and non-science. Discussions about methodological naturalism (science should refer only to natural phenomena and naturalistic assumptions) have brought up many of the perennial difficulties and ambiguities of such debates. In the effort to shed some light here, I wish to contribute to a chapter in the history of methodological naturalism. I explore how Fechner and Lotze demonstrate how religious faith can inform and inspire scientific investigations. Yet it can do so without undermining the universal appeal of scientific arguments or compromising the integrity of empirically-based, naturalistic approaches. Lotze shows how in his defense of the

universal validity of mechanical processes in the natural world – seen in his anti-vitalism. Fechner does so in the empirical foundation of the psycho-physical methods of measurement and the Fechner-Weber law.

I will explore briefly how their religious and philosophical views informed their practice in physiological psychology, important especially in the case of Fechner. I wish to show exactly how their non-reductive views of the person played a *constructive* role in their psychological research and how this reflects deeper philosophical and theological commitments. Finally I will explore the methodological lessons of their work. Religion, philosophy, and science are engaged here in an active three-way dialogue. However, the methods proper to each (mediated by philosophical reflection) are respected and placed in their appropriate context.

**Michael Heidelberger.** “Emile Boutroux on Science and Religion”

In 1908, the French philosopher Emile Boutroux (1845-1921) wrote a book on *Science and Religion* where he distinguished between “naturalism” and “spiritualism” in conceiving of the relation between religion and science. On the naturalistic side he dealt with Comte, Spencer, Haeckel and the new psychology and sociology, on the spiritualist side with Ritschl, Du Bois-Reymond, Duhem, Poincaré, William James’ philosophy of religion and with pragmatism in general. In this paper I would like to trace the origin of Boutroux’s spiritualist conception in his dissertation of 1874 on *The Contingency of the Laws of Nature* which, against Brenner, can be called the origin of philosophy of science in France. There he demonstrated the extent to which natural laws are man’s freely reasoned creations. It was his brother-in-law Henri Poincaré who greatly profited from this idea in working out his conventionalism. It is shown how Boutroux modified his conception of man’s reason and of human freedom in the course of time and how this drew him closer and closer to the thought of pragmatism. I conclude with a comparison of the move towards pragmatism in France and Germany generally at the time and with some thoughts on where Boutroux’s thought is exactly located in this.

**Robert J. Deltete** “Pierre Duhem’s ‘Physique de Croyant’”

The essay “Physique de Croyant” is an important statement of Pierre Duhem’s position on the relation between his science and his religion. Duhem trod a difficult path (some might say an impossible one) in Republican France, since he was both a scientist and a devout Catholic. In this paper, I want to explore, using “Physique de Croyant” as a touchstone, the way in which he tried to reconcile his conflicting allegiances.

There are several strands in Duhem’s strategy (and I do think it was a *strategy*) that need to be teased out. I mention three. First, Duhem sought to defend his science against the charge that it was materialist and atheist. He did this with his claim, usually called the “autonomy thesis,” that physics and metaphysics are fundamentally different enterprises--that physics, properly conducted, has no metaphysical implications and requires no metaphysical support. However, this was not to deny metaphysics its rightful territory. Second, Duhem used his “compartmentalist” position to defend the Catholic Church against the assaults of the positivist scientism then in favor with the Republicans. But, third, he also sought to protect his science against fellow Catholics who wanted to use it for polemical purposes. I develop and evaluate these lines of defense in my paper.