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FUNCTIONALISM  
RECONSIDERED

The past decade or so has heralded a period of heightened interest in methodological issues among historians of religion. That interest is diverse and ongoing, as historians of religion have striven to develop increasingly sensitive tools to enhance our understanding of religious phenomena.<sup>1</sup> Among the issues attracting particular attention has been the question of functionalism's ability to contribute to the work of scholars of religion. Generally, this period of scrutiny has, for the most part, checked the enthusiasm with which many had received functionalist approaches in the study of religion. Criticisms of functionalism as a methodological tool in the "human sciences" have

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<sup>1</sup> See, e.g., Robert Baird, ed., *Methodological Issues in Religious Studies* (Chico, Calif.: New Horizons Press, 1975); Joseph Kitagawa, ed., *Essays in the Problem of Understanding* (Chicago: University of Chicago Press, 1967); Robert Baird, *Category Formation in the History of Religions* (The Hague: Mouton, 1971); and, recently, Jonathan Z. Smith, *Imagining Religion: From Babylon to Jonestown* (Chicago: University of Chicago Press, 1982). Also, see Herbert Burhenn, "Functionalism and the Explanation of Religion," *Journal for the Scientific Study of Religion* 19 (1980): 350-60; and Hans Penner, "The Poverty of Functionalism," *History of Religions* 11 (1971): 91-97.

arisen from anthropology and the history and philosophy of science as well as the history of religions. Our goal is to give both functionalism and these criticisms another look, with an eye directed particularly at that discipline where functional analysis has proved to be especially helpful, namely, evolutionary biology. We will suggest that functional analysis is a potentially powerful theoretical tool, and historians of religion who ignore it do so at their peril. Those historians of religion who have continued to press functional analyses have, at least, implicitly, recognized their explanatory suggestiveness.

In the philosophy of science the criticisms leveled at functional analysis by the logical empiricists were, to a great extent, derived from their larger view of the logic of explanation. In the literature of the logical empiricists both explanation generally and functional explanation in particular received their most sophisticated treatment in the work of Carl Hempel.<sup>2</sup> On the Hempelian view, the paradigm of explanation is causal explanation, and causal relations are to be construed according to the logic of the material conditional. Hempel takes explanation to be both deductive and nomological, which is to say that the relation between an explanation and what it explains is that between the premises and the conclusion of a deductive argument, where at least one of those premises must be lawlike in form.

If the logic of explanation is deductive inference, then functional explanations seem to involve a fallacious inference from a material conditional and its consequent to its antecedent, that is, they commit the fallacy of affirming the consequent. This problem arises because a material conditional establishes only the sufficiency, but not the necessity, of its antecedent for its consequent. Completely different structures might also suffice to produce the same consequence. Thus, as an explanation of its antecedent condition(s), functional explanations rest on an invalid inference. Hempel claims that "the assumption of functional indispensability for a given item is highly questionable on empirical grounds: in all concrete cases of application, there do seem to exist alternatives."<sup>3</sup> Many functionalist theories of religion, for example, claim that religion functions in such a way as to integrate societies. Nevertheless, where religion is supposed to insure social integration, other social forces (such as an external threat to a society as, e.g., in times of war) could suffice to explain

<sup>2</sup> Carl Hempel and Paul Oppenheim, "The Logic of Explanation," *Philosophy of Science* 15 (1948): 135-75. Also, see Hempel's "The Logic of Functional Analysis," in *Readings in the Philosophy of the Social Sciences*, ed. May Brodbeck (New York: Macmillan Publishing Co., 1968).

<sup>3</sup> Hempel, p. 192.

social integration as well. Thus a statement of a conditional relation between religion and social integration and a claim about the integration of a society do not justify attributing to religion the causal responsibility for that state of affairs. Hempel concludes that a functional explanation does not justify expecting one item rather than one of its functionally equivalent alternatives.

Functional explanation simply fails unless it avoids the logical problems outlined above. Hempel anticipates one such "avoidance" strategy, subsequently dubbed "the adaptationalist fallacy."<sup>4</sup> This fallacy operates on the assumption that the regular presence of some structure in a system is sufficient evidence of that structure's adaptive-ness, that is, it shows that the structure carries out a function necessary for the stability and/or persistence of the containing system in question. On this view, any part of a system is, solely in virtue of its repeated presence, adaptive. This panglossian version of functionalism ends up making only the most general functionalist claim, namely, that persisting structures serve some function. On this view, however, that claim is true by assumption and is, thus, an empty tautology devoid of empirical content.

Hempel criticizes this form of functionalism and in the process undercuts those alleged explanations of religion in the social sciences which are of precisely this sort. He warns of the problem repeatedly: "The concepts of adjustment and adaptation . . . require specification of some standard, they have no definite meaning and are in danger of being used tautologically"; also, "in the absence of clear empirical criteria of adaptation and thus of dysfunction, it is possible to treat . . . a functional formulation as a covert tautology and thus to render it immune to empirical disconfirmation."<sup>5</sup> It is the apparent pervasiveness of this fallacy in the social sciences which to a great extent occasions Hempel's pessimism about existing functionalist approaches in those disciplines. He concludes, however, on a somewhat positive note, suggesting that functional analysis is a useful heuristic device which can give some guidance to future theorizing.<sup>6</sup>

Intentionally or not, most of the other attacks on functionalism are of a piece with Hempel's assault. Prominent in anthropology are

<sup>4</sup> Steven J. Gould and Richard Lewontin, "The Spandrels of San Marco and the Panglossian Paradigm: A Critique of the Adaptationalist Programme," *Proceedings of the Royal Society of London B* 205 (1979): 581-98. Also, see Elliott Sober, "Panglossian Functionalism and the Philosophy of Mind" (University of Wisconsin—Milwaukee, Department of Philosophy, typescript).

<sup>5</sup> Hempel, p. 203.

<sup>6</sup> *Ibid.*, pp. 209-10.

Melford Spiro's arguments to the effect that functional explanations must be limited to the explanation of intended consequences (in which case they can be reduced to causal accounts); otherwise, he claims, they explain nothing at all.<sup>7</sup> At best, functional claims offer exceedingly partial accounts not of their antecedents (in this case, religion) but rather of their consequents, that is, the alleged functions (of religion). Thus, in our earlier example a theory's claim that religion integrates societies only explains that integration, not religion. The explanation is partial, for while religion may be sufficient to explain either personal or social integration, it is certainly not necessary.

The most prominent critique of functionalism in the history of religions is Hans Penner's "The Poverty of Functionalism." There Penner argued for the strong conclusion that functional explanations do "not explain religion at all." Following Hempel, Penner claimed that functional analysis is "at best a heuristic device which may lead us to clarity and rigor as we begin to create our own theories concerning religion." On the basis of these conclusions, Penner further asserted that historians of religion need not worry about including functional analysis in their methodological arsenals.<sup>8</sup>

Such critiques of functionalism, whether from the philosophy of science, anthropology, or the history of religions, are problematic on two related counts. The first, which we shall discuss only briefly, concerns their scrupulous adherence to the logical empiricists' model of explanation. The second involves a reassessment of the utility and power of functional analysis in the light of its elaboration in evolutionary biology.

The Hempelian approach to explanation is part of a much larger project in the philosophy of science, namely, logical empiricism, which has undergone increasing (indeed, some have argued, devastating) criticism during the past two decades. A particularly popular target of that criticism has been the claim that deductive logic captures (let alone exhausts) our notion of explanation in science.

Our goal is not comprehensively to rehearse all of these criticisms but, rather, simply to note some of the more prominent ones.<sup>9</sup> In fact,

<sup>7</sup> Melford Spiro, *Burmese Supernaturalism* (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1967), esp. pp. 64-67. Also, see Spiro's "Religion: Problems of Definition and Explanation," in *Anthropological Approaches to the Study of Religion*, ed. Michael Banton (London: Tavistock Publications, 1966).

<sup>8</sup> Penner, pp. 95, 97.

<sup>9</sup> For an excellent summary of these criticisms, see Frederick Suppe, *The Structure of Scientific Theories* (Urbana: University of Illinois Press, 1977), esp. pp. 230-32.

this deductive nomological model of explanation is vulnerable to most of the general criticisms of the logical empiricist program, including its undue, formal restrictiveness, its disregard of pragmatic considerations, its inability to offer a satisfying account of the dynamics of scientific change (and of related semantic issues), and, ultimately, its failure to provide a realistic picture of a great deal of actual scientific practice. The criticisms by historians and philosophers of science have been particularly withering with respect to the two final failures in this list.

The inability of the logical empiricists to provide a compelling codification of the scientific method has provoked numerous alternative accounts of the scientific enterprise generally and of explanation in particular.<sup>10</sup> Also, research in both the history and philosophy of science and cognitive psychology indicates that heuristic strategies are the rule and not the exception in scientific problem solving.<sup>11</sup> Consequently, Hempel's and Penner's conclusion that functional analysis is, at best, a heuristic procedure may not be too serious a charge.

Perhaps even more important, though, attempts to circumvent the logical problems Hempel raises need not inevitably result in the adaptationist fallacy. The functional explanations which evolutionary biology employs involve no logical fallacies and, therefore, offer direction for scholars in the human sciences attracted to functional analysis. Our point is methodological! We are not arguing that historians of religion should use biological categories in their accounts of religion but, rather, that the general theoretical strategies of evolutionary biology exemplify a form of functional explanation which is potentially fruitful for the history of religions.

Evolutionary theory avoids the adaptationist fallacy by attending to the differential reproductive success of competitors within some niche as the criterion of their relative adaptation. The notion of the relativity of adaptation eliminates the threat of tautology in functional formulations. Fitness is always relative—to the competition in particular and to the context in general. Specifically, with respect to the competition, it is the case that "even though a species may be surviving and numerous . . . a new form may arise that has a greater reproductive rate on the same resources, and it may cause the extinction of the older form."<sup>12</sup> With respect to the context generally,

<sup>10</sup> See, e.g., Ernan McMullin, "Structural Explanation," *American Philosophical Quarterly* 15 (1978): 139–47.

<sup>11</sup> Ryan Tweney, Clifford Mynatt, and Michael Doherty, eds., *On Scientific Thinking* (New York: Columbia University Press, 1981).

<sup>12</sup> Richard Lewontin, "Adaptation," *Scientific American* 239 (1978): 222.



various features of a niche pose problems for organisms—problems which permit many possible solutions the relative effectiveness of which can be assessed in advance. Evolutionary theory is not confined to construing fitness and reproductive success exclusively in terms of one another because, under the assumption of ecological stability, it has means for anticipating the relative merits of alternative solutions to ecological problems according to engineering procedures concerning optimal designs.

That the situation is even more complicated should dispel fears about a circular relationship between the notions of fitness and reproductive success. Although adaptation results in natural selection, natural selection need not increase adaptiveness. Functional analysis (in conjunction with the principles of natural selection) provides a rationale for the presence of traits, but, crucially, it is not the only possible rationale. The synthetic theory of evolution recognizes other means by which traits arise (and persist), such as mutation, genetic drift, and pleiotropy (where two or more traits share a common genetic foundation and, consequently, all the rest persist when any one of those traits is selected). Thus functional explanation in evolutionary theory avoids the vacuity which results from panglossian excess.

Functional explanations in biological contexts direct evolutionary research: "Attributing a function to an entity is explanatory because it brings the existence and form of that entity as a phenomenon to be explained within the supposed scope of evolutionary theory. This is not so much to offer an explanation as to register a claim that one can be offered, and to identify evolutionary theory as the relevant place to look."<sup>13</sup> The heuristic value of functional analysis lies in its ability to distinguish those phenomena appropriate for evolutionary explanation. This form of functional explanation does not involve the fallacy of affirming the consequent because its goal is simply to identify the structures which are sufficient to account for the fitness of the organism within the containing system at hand. This sort of functional explanation is only a preliminary in evolutionary research since the ultimate goal is to ascertain the causal laws which underlie the functional integration of the overall system. These functional explanations bring biological phenomena within the purview of the evolutionary mechanisms of variation, inheritance, and selection and thus offer a means of submitting the structures in question to causal

<sup>13</sup> William Wimsatt, "Teleology and the Logical Structure of Function Statements," *Studies in History and Philosophy of Science* 3 (1972): 76.

explanation. The resulting evolutionary stories offer compelling causal accounts for the general fit of organisms with their environment. Such biological examples support Hempel's assertion that "one of the most important tasks of functional analysis in psychology and the social sciences will be to ascertain to what extent such phenomena of self-regulation can be found, and can be represented by corresponding laws" (emphasis ours).<sup>14</sup>

Functional analysis, then, constitutes a good strategy for isolating salient causal relationships in complex systems, whether biological or sociocultural. In the process, it identifies those entities (and features of entities) that are causally basic in a system (and those which are not). Functional analysis enables us to identify the causally significant components in a complex system and to distinguish them from their causal consequences. It provides grounds for differentiating causes and effects, phenomena and epiphenomena, facts and artifacts—and so supplies the materials for constructing ordinary causal theories. Lewontin argues, for example, that human chins seem to be irrelevant from an evolutionary standpoint since it is other selected features of human jaws that are causally responsible for their form.<sup>15</sup> Hence, we should not expect the concept "chin" to play any direct role in our theories about human physical functioning. Functional analysis offers insight not only into the causal relations which an adequate theory must capture but into its requisite ontological commitments as well.

Many social scientists have argued that religion is epiphenomenal, that is, that religious phenomena are merely the consequences of interactions of other structures in a social system that, unlike religion, are causally significant.<sup>16</sup> Historians of religion have traditionally resisted such reductionistic claims and rightfully so. Unfortunately, functional explanation has, on occasion, been among the targets of their counteroffensives. This antipathy is misplaced. An empirically suggestive functional theory in which religion played a role would constitute particularly telling evidence against such reductionistic views. A functional theory which included religious phenomena among its variables would affirm both their theoretical and their ontological

<sup>14</sup> Hempel (n. 2 above), p. 205.

<sup>15</sup> Lewontin, p. 217.

<sup>16</sup> For example, Marvin Harris, in his *Cultural Materialism* (New York: Random House, 1979), lists religion, when he attends to it at all, as a superstructural phenomenon. W. G. Runciman, in his *Sociology in Its Place* (London: Cambridge University Press, 1970), unabashedly identifies religion and ideology; and E. O. Wilson, in *On Human Nature* (Cambridge, Mass.: Harvard University Press, 1978), while acknowledging the fundamental importance of religion, nevertheless equates it with xenophobia.

integrity and would count against attempts to explain religion away. Neither the verdict of nor the verdict on functionalist accounts of religion can be decided a priori. Indeed, functional analyses may offer the historian of religion compelling grounds for rejecting reductionists' claims.<sup>17</sup>

Because functional analyses are logically dissimilar to standard causal theories (as outlined above) they are among the least sensitive of theories both to the ontological commitments of causal theories at lower levels and to intertheoretic relations generally. The overriding concern in the functional analysis of complex systems is with context rather than components. Contextual considerations predominate over reductionistic considerations in the functional analysis of a complex system because the internal integration of such a system greatly complicates the differentiation of its components. This is the normal result of natural selection in the biological realm, of design in the technological realm, and of historical selection pressures in the socio-cultural realm.<sup>18</sup> The crucial analytical problem is to discover the ecological factors (in the broad sense of that notion) which have influenced the resulting design and then, for the purposes of theorizing, to fix these "normal conditions" under which the system persists since they constitute most of the major conditions to which the

<sup>17</sup> It is in this light that certain of Penner's comments on the reductionistic character of functionalist theories appear, perhaps, too facile. Functional theories, like all other theories, address specific explanatory problems. No theory exhausts its object of study. Penner's claim that "all theories are reductions" is, at least, somewhat misleading (Penner [n. 1 above], p. 92). If his claim is that all theories select the phenomena they seek to explain, this is surely, but trivially, true. If, however, Penner intends the stronger claim that every theory reduces either some other theory or some other things, then, in comparison to other types of theories, he rather misrepresents the character of functional analyses. Also, Penner's claim that "reducibility involves theories, not data" (Penner, p. 92), is certainly not uncontroversial. During the past fifteen years discussions of reduction (both for and against) have not questioned the possibility of reducing one phenomenon to another but, rather, have emphasized the stringency of the conditions which must be satisfied in order to do so. See, in particular, Robert Causey, *Unity of Science* (Dordrecht: D. Reidel Publishing Co., 1977); and Robert N. McCauley, "Hypothetical Identities and Ontological Economizing: Comments on Causey's Program for the Unity of Science," *Philosophy of Science* 48 (1981): 218-27.

<sup>18</sup> The notion that religion generally or various religious traditions in particular constitute differentially effective attempts to solve a social design problem is too suggestive to abandon at such an early stage of inquiry (even though, arguably, it is as old as social Darwinism). That selective forces in some sense operate at the socio-cultural level is manifestly obvious. See Donald Campbell's essays "Variation and Selective Retention in Sociocultural Evolution," *General Systems* 14 (1969): 69-85, "The Conflict between Social and Biological Evolution and the Concept of Original Sin," *Zygon* 10 (1975): 234-49, and "On the Conflicts between Biological and Social Evolution and between Psychology and Moral Tradition," *American Psychologist* 30 (1975): 1103-26.



system has adapted. A *ceteris paribus* clause typically signals this assumption of ecological stability.<sup>19</sup> Fixing these conditions permits the evaluation of alternative design solutions because in such fixed contexts measures of relative fitness are reliable indices of future success.

Thus functional analyses do not isolate systems from their contexts; instead, they treat those contexts as fixed. This is because functional analysis is usually called on to deal with precisely those systems which are so complex that they are (at least for all practical purposes) inscrutable with respect to the formulation of causal laws, even when their contexts are ignored. Typically, the more complex the system under analysis, the more useful, and hence appropriate, functional analysis proves to be (and the effects of religion in society are very complex indeed!). Many features indicate systemic complexity, such as multiplicity of variables, their stochastic relationships and vague boundaries, and reflexive models for the purposes of control.<sup>20</sup> In short, complex systems are those which have gone through generations of design either by means of natural selection, conscious engineering, or historical development. Certainly, biological systems come most readily to mind, but sociocultural systems may, in the long run, prove equally exemplary.

Of course, the assumption of ecological stability constitutes a powerful idealization, but no more so in the sociocultural realm than in the biological. In fact, the use of such idealizations is as popular a theoretical strategy in the natural sciences as in the social. Newtonian mechanics assumed that the universe was frictionless, that bodies were point masses, and that the solar system contained only a pair of bodies at any one time (for the purposes of planetary calculations). Charles's law assumed that a gas has no volume at zero degrees Kelvin, and all of the classical gas laws embodied assumptions which do not hold at extreme temperatures and pressures. As Weber recognized, idealization is the inevitable result of formulating general theories which rise above the mire of ideographic detail. No one should begrudge scholars of religion this privilege, particularly considering the substantially more complex systems with which they deal.

<sup>19</sup> Lewontin, p. 225.

<sup>20</sup> See Herbert Simon, *The Sciences of the Artificial* (Cambridge, Mass.: MIT Press, 1969); William Wimsatt, "Complexity and Organization," in *PSA-1972*, ed. K. Schaffner and R. Cohen (Dordrecht: D. Reidel Publishing Co., 1974), pp. 67-68; and Donald Campbell, "Common Fate, Similarity, and Other Indices of the Status of Aggregates of Persons as Social Entities," *Behavior Science* 3 (1958): 14-25.

By making idealizing assumptions about the conditions under which a system normally operates, functional analysis becomes an especially powerful heuristic for the generation of more familiar causal theories. The explanation of complex systems in science involves functional analysis as an especially propitious preliminary to the proposal of causal laws. Indeed, the consistent failure of scientists to proceed optimally in practice has motivated a picture of science as concerned with developing problem-solving strategies that are fundamentally heuristic in character. Hence, conclusions concerning the heuristic status of functional analysis do not justify pronouncements about either its methodological expendability in the history of religions or its methodological impoverishment generally. We should be careful not to underestimate its ability to sort out causal relations in complex systems.

We have, as yet, no evidence that standard causal theories of extremely complex phenomena are practically realizable unless preceded by functional analysis. Although we suspect that most extant functionalist theorizing in the social sciences suffers from panglossian confusions, the success of functional analyses in evolutionary biology clearly suggests that this need not be the case. We can no longer cite complexity as a convenient excuse for avoiding our theoretical responsibilities. *Religionswissenschaft* has yet to demonstrate that it can safely refuse the aid of a methodological tool as potentially rich as functional analysis.

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