



James K. A. Smith

Science and Religion Take Practice: Engaging Science as Culture

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This article argues that current paradigms in the theology/science conversation effectively treat “science” as if it were equivalent to “nature”—with detrimental effects for the encounter between Christian theology and the natural sciences. In contrast, I suggest that recognizing science as culture has important implications for reconfiguring the theology/science dialogue.

Political cartoons often argue by means of caricature. Indeed, the very definition of a “cartoon” is that it is an *outline*—a bold-edged sketch that captures something not in fine detail but in broad strokes. The genre of the political cartoon often makes its point by exaggeration. Hence the “caricatures” of political figures that we find in the *New York Review of Books* often over-emphasize certain traits; and yet, in doing so, they immediately capture something true that we all recognize.

In the spirit of that genre, let me try to press a point by means of admitted “cartoons” and caricatures of a sort. In that spirit, I would like to float just one tiny little provocative claim. Consider it a discussion starter: The theology/science dialogue, as it has often been conducted, operates on the basis of a category mistake. In particular, I think that some of the regnant paradigms in science-and-theology discourse have been playing with loaded dice such that the house (science) always wins. Or, for Holiness folks who will not get the gambling metaphor, I want to suggest that an increasingly dominant paradigm in the theology/science dialogue has set up an uneven playing field that has put

Christian theology in the position of having to play uphill. The goal of this article is to level that playing field by reflecting briefly on the nature of “culture” and then tease out the implications of that for understanding what we are doing when we stage a “dialogue” between science and Christian faith.

Category Mistakes: Science, Nature, Culture, Theology

The primary category mistake I want to note stems from the fact that much of the science/theology conversation has operated on the basis of a certain positivism vis-à-vis “science,” and taken the “findings” of science as if they were pristine disclosures of “nature.”¹ Thus we increasingly encounter familiar tropes about “what we now know” or “what science says,” which are all too often followed by identifying some Christian doctrine that needs now to be abandoned or modified.² Both “new atheists” and Christian scholars can tacitly work

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within this paradigm. Indeed, some of the features of this paradigm are what we usually associate with “liberal” Christianity. But I suggest that some evangelicals—who hold a high view of Scripture—have unwittingly bought into aspects of this paradigm, which might explain certain trajectories in recent debates about evolution, human origins, and the Fall.

On both ends of the continuum, there is a similar (though perhaps unwitting) assumption about the nature of *science*: science is either the pristine deliverer of the cold, hard, secular truth; or science is the crystal clear lens for disclosing the “message” in the book of nature.³ As such, science is taken to be an odd sort of transparent black box which simply discloses the “objective” features of *nature*. Thus, while the “dialogue” is purportedly between “science” (roughly, a constellation of academic disciplines) and “theology” (roughly, another academic discipline), *in fact* or *functionally*, the dialogue often assumes that theology is a kind of human cultural product whereas science is merely the conduit for disclosing the cold, hard realities of “nature”—to which theology must answer, demur, or affirm. After all, who is going to argue with “nature”? Only crazy “anti-realists” [I have yet to meet one] would think that you can argue with *science* because they think that you can argue with *nature*. But for the rest of us who are sane and responsible, including those of us who are theologians, we have to concede that there is no arguing with nature, and therefore there is no arguing with science.

Like a schoolchild of years ago, we have to suck it up, lay out our hand, and bear the brunt of the strap. Theology needs to be *disciplined* by the findings of science and submit itself to the cold, hard realities of nature.⁴ If this turns out badly for some traditional or “fantastic” theological claims, then theologians have to take that as part of their whipping, and leave the principal’s office grateful that they have been chastised since this discipline will make them more intellectually responsible. On this (admittedly cartoonish) account, the theologian brings his work to the scientist’s desk, who then determines what is acceptable and what is unacceptable given the “realities” of nature, and the theologian leaves, hat-in-hand, grateful for whatever scraps of theological claims remain after the tutor’s red ink has shredded the student’s paper.

This configuration of the theology/science dialogue sets up an asymmetrical relationship because of an equivocation about the nature of “science.” While the conversation claims to be a dialogue between “science” and “theology,” I think that *functionally* it is taken to be a confrontation between *nature* and *culture*.

science :: theology
nature :: culture

But that is a category mistake. In fact, a dialogue between “science” and “theology” is always already a dialogue between “culture” and “culture,” both of which are confronted by, constrained by, and answer to a certain “givenness” that we often describe as “nature.”

science :: theology
culture :: culture
nature⁵

In other words, the theology/science conversation has tended to ignore the fact that science is a *cultural* institution. By a “cultural institution,” I mean, first of all, an institution that is a product of human making, a contingent product of *poiesis*.⁶ Culture is the unfolding of potentialities that are latent or implicit in “nature,” as it were. So aspects of “culture” are the fruit of human making and unfolding; they are not “natural kinds.” A painting by Picasso, an elementary school, a Boeing 747, and a political constitution are all examples of “culture,” of human making. They are not “naturally occurring” entities that one would bump into if there were not human agents who unfolded them and brought them into being. Thus cultural institutions are networks of practices, habits, and material environments that are the product of human making.

A hospital, for example, is a cultural institution that is “unfolded” by a human community and is composed of both a particular built-environment (ER and ORs, ambulances and CAT scan machines, etc.) and networks of practices and traditions which are learned by apprenticeship (e.g., the “disciplines” of surgery and medicine, the traditions of care that define nursing). Hospitals do not fall from the sky, nor do they simply crawl up from the lagoon in the La Brea Tar Pits. They emerge as products of human making—which means that they are essentially historical and contingent. They unfold over

time, but they could have unfolded otherwise, or even not at all.

Now, it seems to me that the science/theology conversation happily acknowledges that *theology* is a cultural institution. How could one not? Theology is a product of religious traditions and communities, which are themselves paradigmatic instances of “cultural institutions” that are historical, contingent, and certainly not “natural.”⁷ They have unfolded over time, have unfolded differently in different places, could have unfolded otherwise, and might even have not unfolded at all. Thus “theology,” as a cultural institution, is recognized as a kind of “hermeneutic” reality—it offers interpretations of the world, is shaped by different traditions and presuppositions, and represents a “take” on things. From the perspective of the regnant paradigm in the theology/science conversation, this means that theology is sort of one step back from “reality.” It is a cultural institution that ascribes “meaning” to reality/nature, whereas “science” is a conduit for disclosing the reality of nature *as such*.

The regnant paradigm has failed to *functionally* appreciate (even if it might officially concede) that science is also a cultural institution. “Science”⁸ is not a naturally occurring entity like igneous rocks or sea horses; that is, science is not something that emerges from the swamp or falls from the sky apart from human making. Rather, science is a network of material practices, built environments (including laboratories, instrumentation, etc.), traditions of apprenticeship, and learned rituals that emerged over time, in particular configurations, in different places.⁹ So any conversation between “science” and “theology” is never going to be simply a matter of getting theology to face up to “nature”; rather, it is always already a *cross-cultural* dialogue. It is a conversation between two different cultural institutions, each with its own traditions, practices, built environments, and meaning-systems. Because of its lingering positivism, the theology/science dialogue—at least as I have seen it—tends to operate in isolation from a vast (and growing) literature on science *as culture*, such as the social history of experimentation, the politics of The Royal Society, the material dynamics of apprenticeship, the economics of instrumentation and technological developments, the cultural embeddedness of medicine, and so on.

Robert Brandom articulates the nature/culture distinction as the distinction between things that have *natures* and things that have *histories*. While the stuff of physics has a “nature,” physics as a discipline of scientific study has a history. And in fact, “even concepts such as *electron* and *aromatic compound* are the sort of thing that has a history.”¹⁰ So the sciences are cultural products; indeed, the very distinction between nature and culture is itself a cultural formation.¹¹ Thus the encounter between theology and science is not equivalent to an encounter between theology and *nature*. As Joseph Rouse comments,

Scientific practices are often construed as apart from any surrounding culture, and even free from culture, but such construals are not adequate to the richness and complexity of scientific work. Recognizing the intimate entanglement of the sciences with other practices does not diminish or blur their significance but instead acknowledges their pervasiveness throughout the world.¹²

The point here is *not* a debunking project; that is, I am not pointing out that science is a cultural institution in order to dismiss it or to grant license to ignore it. Rather, the point is to situate science *as* a cultural institution in order to clarify the category mistake and thus level the playing field for the science/theology dialogue.

Science Takes Practice

What would it mean to appreciate science *as* culture, as a *cultural* institution? What are the implications of recognizing science as a cultural institution for the theology/science dialogue? Briefly, I will note just a few.

Leveling the Playing Field

As already indicated, one important implication of recognizing science as culture is a leveling of the playing field in the theology/science dialogue. While it might be the case that theology must rightly be constrained by the “givenness” of nature—the world that pushes back on our claims—that is not the same as saying that theology must bow at the feet of *science*. We need to recognize a distinction between science and nature, a distinction too often erased in the theology/science conversation. Science is not

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just a transparent magnifying glass or pristine conduit that delivers nature “as it really is.” Science is a cultural institution (or, better, a constellation of cultural institutions) that is, of course, especially attentive to nature and is interested in describing and perhaps even explaining nature. Science exposes itself to nature’s push-back through the rigors and disciplines of experimentation and observation. But that does not make science “natural.” It remains a cultural layer of human making. And in this respect, it is in the same boat as theology (and literature and sociology and ...).

Therefore, theology should no longer feel that it has to defer to science *as if* it were thereby subjecting itself to nature or “reality” (as in, “science tells us ...”). While theological claims are rightly disciplined by the ways in which the givenness of the world “pushes back” on our claims, this is not synonymous with being disciplined by science. In the vein of John Milbank’s manifesto regarding theology’s deference to the social sciences, we might also suggest that theology ought to drop the false humility and reassert itself as a cultural voice with the same epistemic standing as science.¹³ The asymmetry of the conversation so far has been predicated on a privileged place of science as a veritable divine letter carrier, as the deliverer of nature’s truth who sets the rules of the game. But science is a player, not referee or judge.

Appreciating the Role of Practices

The theology/science conversation should also stop thinking of “science” as a *static body of findings* and instead consider science as a *dynamic process of finding*. The way the theology/science dialogue is usually conducted one would almost guess that “science” existed only in journals. The “science” in the theology/science dialogue is a remarkably disembodied phenomenon—as if there were no laboratories, instruments, or communities. But science is not just the *results* of science, the data sets or images that get produced at the end of a very long process. Nor is science just a matter of *theory*. Rather, “science” is perhaps best identified as the *practices* that yield such fruit. This will require that we give up lingering perceptions of science as itself mechanistic or technicistic, along with theory-centric conceptions of science as the sort of thing best pursued by brains-in-vats. Science is a deeply social, communal project,

composed of material practices and rituals that are handed on as traditions, absorbed as habits, and enacted in experimental performances that, literally, create worlds.

How might the theology/science dialogue look different, not only if we recognize science *as* culture, but recognize it also as a *community* with a set of cultural practices? This will require appreciating the central role of experimentation, along with all the rituals and traditions that inform it. Thus Robert Crease suggests that experimentation is a kind of “performing art.”¹⁴ Theories cannot do the work that experimental “art” does because

a scientific entity does not show up in a laboratory the way an airplane shows up on a radar screen, a fully formed thing out there in the world whose presence is made known to us by a representation. Nor is a scientific entity like a smaller version of the airplane, which could be perceptible if only scaled up large enough. Nor, finally, is a scientific entity like some distant and unknown object on the radar screen that when closer becomes perceptible. A scientific entity becomes perceptible only in performance.¹⁵

So experimentation “is not merely a *praxis*—an application of some skill or technique—but a *poiesis*; a bringing forth of a phenomenon.”¹⁶ While science seeks to be disciplined by nature, there is also a sense in which science *creates* its own phenomena. It constitutes its world through experimental performance which is a *learned* performance requiring its own set of virtues and skills, deft employment of instrumentation, and a kind of “know-how” that is not theoretical, and perhaps not even “intellectual.”¹⁷

Hans-Jörg Rheinberger, in his stunning philosophical history of the protein synthesis, notes the ways in which the “stuff” of science—“epistemic things” or “research objects”—emerges because of experimental conditions that are created by “technical objects” (such as instruments). The epistemic things “articulate” themselves “through” a “wider field of epistemic practices and material cultures” which includes both instruments and theories.¹⁸ In important ways, the “epistemic things” that will emerge “usually cannot be anticipated when an experimental arrangement is taking shape.”¹⁹ (So there are a lot more surprises in science than one would guess from the picture we get from

the theology/science dialogue.) Thus “experimental systems are necessarily localized and situated *generators of knowledge*.”²⁰ What science *finds* is significantly determined not only by what science goes looking for, but also by *how* it looks. And that “how” is not primarily a theory but a constellation of practices that constitute an experimental system. As these systems build up over time and generate linkages with other experimental systems, there emerge what Rheinberger calls “experimental cultures” which “share a certain material style of research” or “laboratory style.” At that point, experimental systems begin to take on a life of their own.²¹ They generate epistemic things by generating micro-worlds—which are responses to nature but should not be identified with nature.²² Hence, once again, we see the importance of not mistaking science with nature. We also note Rheinberger’s concluding caveat—cautioning that this is not meant to thereby reject science:

To characterize science as practice and as culture does not amount, as far as I apprehend it, to determining the social influences hindering or furthering the sciences. It does not amount to a critique of ideologies of science in the traditional sense. Rather, it amounts to characterizing the sciences themselves as cultural systems that shape our societies and all the while trying to find out what makes the sciences different and confers on them their peculiar drive, not privileging them with respect to other cultural systems.²³

Meaning and Interpretative Practices

This priority of practice to theory should make us attentive to the nature of scientific practices—which is what defines the landmark (but underappreciated) work of Joseph Rouse.²⁴ Rouse emphasizes a “normative” understanding of practices which attunes us to just how “loaded” scientific practices are. He emphasizes,

What a practice is, including what counts as an instance of the practice, is bound up with its significance, in terms of *what is at issue* and *at stake* in the practice, to whom or what it matters, and thus with how the practice is appropriately or perspicuously described.²⁵

What is at stake and what is at issue is embedded in the practices and constitutes a particular hermeneutic construal of the world. There is always a

normativity at work in practices, including experimental practice. Practices are “defined” not only by the specific activities that “compose” them, but also “by what those activities are *about* (what is ‘at issue’ in the practices) and by what is *at stake* in their success and continuation.”²⁶

This is the basis for Rouse’s core thesis: *practices matter*. Practices have something at issue and something at stake.²⁷

One has not understood a practice unless one has grasped the point of the practice, that is, what is at issue and what is at stake. The recognition that practices are focused by such issues and stakes does not, however, challenge my earlier insistence on the openness of the practice.²⁸

This means that scientific practices are not just pure conduits of a “given” world of “facts,” but rather are world-*constituting*. It is practices which “give meaning,” and thus scientific practices—as cultural institutions—are as “meaning-giving” as those of theology. This means that we need to reconnoiter how we have traditionally understood the theology/science distinction. Scientific practices are not merely passive, “observational” practices that simply yield “facts.” Like theology, they also give meaning—they render significance. So the encounter between Christian theology and science cannot be a division of labor whereby science discloses the “facts” and then Christian faith renders a “meaning” consistent with those facts. While there is no inherent conflict between Christian faith and science²⁹ (where science is understood as the human cultural practice of attending to and understanding the natural world), we need to recognize that there *can* be conflict between the different meanings they assign to the natural world. Sometimes in our eagerness to dispatch with simplistic, unproductive models that posit a battle between science and faith, we too quickly look to reconcile what really are competing visions of the world. Recognizing science *as* culture should at least grant us permission to demur from the magisterial authority that science assumes in its disclosure of “the facts of the matter.”

Conclusion

I have tried to suggest that one of the regnant, albeit implicit, paradigms in the science/theology dialogue

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tends to operate on the basis of a category mistake; namely, it ends up treating the “science” pole as if it just represented “nature,” whereas theology is taken to be an instance of “culture.” But science, too, is a cultural institution. How would the theology/science dialogue look different if we took this to heart?

Well, it would *not* be license for Christian theologians to dismiss scientific claims whenever they are inconvenient or pose a challenge to core Christian claims. As I have repeatedly emphasized, the upshot of this analysis is not to level the playing field so that theology can try to evade engagement with the natural sciences. Nor is the goal to simply invert the asymmetry and allow theology to trump the findings of the natural sciences.

The outcome of my argument is more modest. At the very least, if we truly level the playing field and recognize that science is a mode of cultural meaning-making and not a transparent, pristine conduit of “the way things are,” then we cannot simply cite “the secure findings of science” as sufficient ground for dismissing or revising core doctrines of the Christian faith. Insofar as contemporary discussions in the theology/science dialogue repeat tropes of this sort, we should also be on the lookout for implicit, functional ways in which we unwittingly ascribe to “science” a magisterial authority *as if* it were nature itself. ❖

Notes

¹This is the reason why theological claims generated by the theology/science dialogue tend toward versions of a “natural theology.” For two robust—but very different—Christian critiques of the very project of natural theology, see Alvin Plantinga, “The Reformed Objection to Natural Theology,” *Proceedings of the American Catholic Philosophical Association* 54 (1980): 49–63 and Stanley Hauerwas, *With the Grain of the Universe: The Church’s Witness and Natural Theology* (Grand Rapids, MI: Brazos, 2001). I might note that the line of argument I am sketching in this brief article could be read as a “natural science” equivalent of John Milbank’s radical critique of the alleged “neutrality” of the social sciences in *Theology and Social Theory* (Oxford: Blackwell, 1991). For a further unpacking of that, see Conor Cunningham, *Darwin’s Pious Idea: Why the Ultra-Darwinists and Creationists Both Get It Wrong* (Grand Rapids, MI: Eerdmans, 2010).

²Consider, for example, the trope found in a recent article published in *Perspectives on Science and Christian Faith*, in which we are told about the radical theological revisioning that is required based on the “secure findings of science.”

See Daniel Harlow, “After Adam: Reading Genesis in an Age of Evolutionary Science,” *Perspectives on Science and Christian Faith* 62, no. 3 (2010): 192.

³No Christian scholar is going to explicitly assert that she or he is setting science “over” Scripture. I am suggesting that we need to move beyond explicit claims about how they perceive the relationship between science and theology and instead look at the implicit *function* of science within their proposals.

⁴There is a political correlate to this: those who simply accept the paradigm of liberal democracy will assert that Christian claims in the public sphere need to be “disciplined” by the expectations and strictures of democracy.

⁵This, in fact, is much too simplistic, but will have to remain heuristic for now. The nature/culture distinction is not so neat and tidy. For instance, I do not mean to suggest that “culture” is just a kind of layer on nature; nor do I mean to suggest that cultural animals are not always already “natural” animals. But we cannot do justice to these issues in this brief conversation-starter. If I had more time, I would pursue this in dialogue with Bruno Latour’s notion of “hybridities.” See Latour, *We Have Never Been Modern*, trans. Catherine Porter (Cambridge, MA: Harvard University Press, 1993), 85–111.

⁶This should be a relatively noncontroversial claim. For a discussion of culture in terms of *making*, see Andy Crouch, *Culture Making* (Downers Grove, IL: InterVarsity Press, 2008).

⁷Though certain lines of research (e.g., accounts of altruism in evolutionary psychology, or more recently, neuroscientific accounts of religion as found in Pascal Boyer, *Religion Explained* [New York: Basic Books, 2002] and Justin Barrett, *Born Believers: The Science of Children’s Religious Belief* [New York: Free Press, 2012]) have sought to suggest that “religion” is a kind of natural outworking of the sort of biological creatures that we are, I am agnostic about these proposals at this point. In any case, this would not harm the thesis here since the point is just that, in some significant sense, “culture” is nature “plus” something, not *instead of* nature. Of course, the human work of culture-making is made possible by a substrate of biological capabilities.

⁸It is even tendentious to keep talking about “science” as if it were some monolithic reality. Just what makes neuroscience, physics, and ecology part of the same thing, “science”? My thanks to Matt Walhout for continuing to press this point.

⁹See Stephen Gaukroger’s magisterial history, *The Emergence of a Scientific Culture: Science and the Shaping of Modernity 1210–1685* (Oxford: Oxford University Press, 2009).

¹⁰Robert Brandom, *Articulating Reasons: An Introduction to Inferentialism* (Cambridge, MA: Harvard University Press, 2000), 26–7.

¹¹*Ibid.*, 27.

¹²Joseph Rouse, *How Scientific Practices Matter: Reclaiming Philosophical Naturalism* (Chicago, IL: University of Chicago Press, 2002), 166.

¹³See John Milbank, *Theology and Social Theory: Beyond Secular Reason* (Oxford: Blackwell, 1990):

The pathos of modern theology is its false humility. For theology, this must be a fatal disease, because once theology surrenders its claim to be a meta-

discourse, it cannot any longer articulate the word of the creator God, but is bound to turn into the oracular voice of some finite idol, such as historical scholarship, humanist psychology, or transcendental philosophy. If theology no longer seeks to position, qualify or criticize other discourses, then it is inevitable that these discourses will position theology. (p. 1)

It should perhaps be noted that John Milbank could never be confused with a “fundamentalist.”

¹⁴Robert P. Crease, *The Play of Nature: Experimentation as Performance* (Bloomington, IN: Indiana University Press, 1993), esp. 74-102. My thanks to Arie Leegwater and Matt Walhout for pointing me to this resource.

¹⁵*Ibid.*, 85-6.

¹⁶*Ibid.*, 82.

¹⁷The point is that such know-how is more on the order of what Heidegger describes as the “understanding” or preunderstanding, or what Charles Taylor calls a “social imaginary.”

¹⁸Hans-Jörg Rheinberger, *Toward a History of Epistemic Things: Synthesizing Proteins in the Test Tube* (Stanford, CA: Stanford University Press, 1997), 28-9.

¹⁹*Ibid.*, 74.

²⁰*Ibid.*, 76, emphasis added.

²¹*Ibid.*, 138-9.

²²Rouse rightly emphasizes that “there is no such thing as the ‘social world’ (or the ‘natural world’) except as reified abstractions from *the world*” (*How Scientific Practices Matter*, 173).

²³Rheinberger, *Toward a History of Epistemic Things*, 140.

²⁴I cannot begin to do justice to Rouse in this context. For further discussion that is particularly relevant in this context, see Matthew Walhout, “Looking to Charles Taylor and Joseph Rouse for Best Practices in Science and Religion,” *Zygon* 45 (2010): 558-74.

²⁵Rouse, *How Scientific Practices Matter*, 175.

²⁶Joseph Rouse, “The Significance of Scientific Practices,” in *Engaging Science: How to Understand Its Practices Philosophically* (Ithaca, NY: Cornell University Press, 1996), 142. I think one of the great missed opportunities, so far, is the lack of any serious engagement between Rouse and Alasdair MacIntyre, which I think would prove especially important to Christian theorists.

²⁷This sounds like teleological language to me—and it explains why Rouse immediately emphasized that claiming that practices have something at issue/at stake does *not* challenge his earlier claim to their openness (*Ibid.*, 142). I would agree: teleological orientation does not equate to “shutting down” surprise (contra Jacques Derrida).

²⁸*Ibid.*

²⁹See Alvin Plantinga’s robust argument in *Where the Conflict Really Lies: Science, Religion, and Naturalism* (New York: Oxford University Press, 2011).

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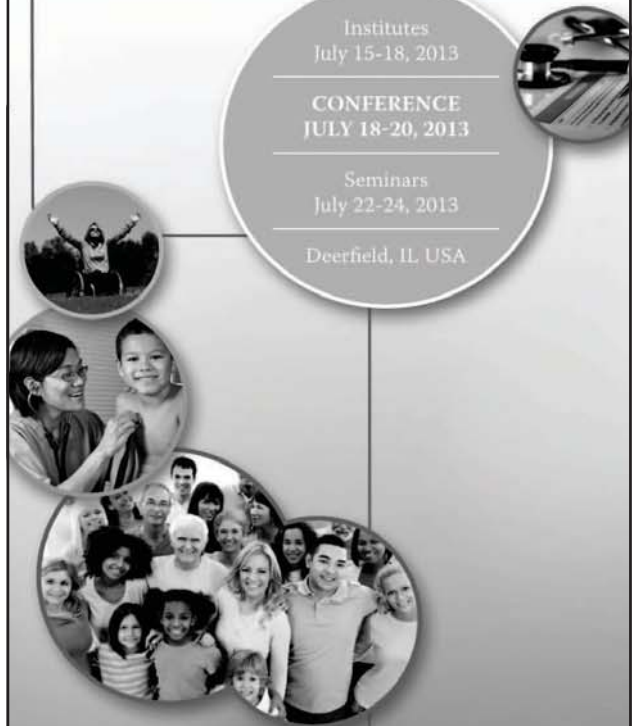
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