Overlapping Magesteria: What Science and Religion Have In Common

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I am a rabbi from a family of scientists. I have scientific skepticism in my blood, but I have never felt that it conflicted with my work of building spiritual community. To the contrary, I believe that science and religion reinforce each other. Stephen Jay Gould wrote that science and religion can never truly clash because they have nothing in common. They are "non-overlapping magesteria," neither of which has standing to refute the other's claims.[1] I believe something more: that science and religion, truly understood, are at peace with one another because of what they share, not just because of how they differ. At a certain level, they support each other's work. In an era when their cultures have grown polarized, when science and religion serve as rallying cries for warring camps, I feel that it might help to point out what the two kinds of inquiry, as I understand them, have in common. What follows is not a formal philosophical argument but a personal, practical effort to map out a middle ground in a world dominated by extremes.

Empiricism and Religious Questions

The commonality between science and religion that I have in mind has nothing to do with content. It is not due to any similarities in what they teach, such as those between the symbolism of medieval

[1] Stephen Jay Gould, "Non-overlapping Magesteria," *Natural History* 106 (March 1997), pp. 16–22.

Jewish mysticism and the physics of the big bang.[2] Nor is it due to emotions that we might associate with both, such as the wonder at the natural order that Albert Einstein saw as the core impetus of science and the purest distillation of religion.[3] Rather, it is due to an essential kinship in their missions. Religion, like science, is an effort to make sense of what we perceive. In contrast with those who define religion as faith in the unseen, I would argue that it is more properly understood as an interpretation of the *seen*. Religion is akin to science in that it is rooted in empiricism in the broad sense. Like science, religion struggles to make sense of evidence, albeit a different kind of sense of a different kind of evidence. Religion, as I understand it, is the use of sacred language to interpret what we perceive about the world specifically as human beings. It is the use of symbols, narratives, and concepts to make reality coherent and intelligible to a searching self. Ritual practice plays an important role as well in that it concretizes and intensifies sacred language. It enables us to inhabit that language more fully, to put our bodies into it as well as our minds, which deepens its power to make the world—and our place in it—comprehensible. Religion is empirical in that it is a particular kind of effort to make sense of what we see.

One might ask: If empiricism is so broad a category that it can encompass things as different as science and religion, then is it not too broad a category to mean much of anything? If science and religion are both empirical, then what is not empirical?

Perhaps by answering that question, I can make my point clearer. Let me offer an example of a non-empirical mode of thinking, which is antithetical to both endeavors, in order to highlight what they have in common.

One of the most salient strands of anti-empiricist thought today is the reductionism (or reductive materialism) that pervades large parts of the academic world and much of the general culture as well. It is sometimes called physicalism because it teaches that the only true

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2 See, for an example of such discourse, Daniel Matt, *God and the Big Bang: Discovering Harmony Between Science and Spirituality* (Woodstock, VT: Jewish Lights 1996).

3 Albert Einstein, "Religion and Science," *New York Times*, November 9, 1930, p. 136.

way to describe reality is through chemistry and ultimately physics.[4] It is also called scientism because it absolutizes science in a way that science itself does not.

Reductionism, by whichever name we call it, is the ideology of the most caustic critics of religion today. Its core complaint against religion is not that religious answers happen to be false but that religious questions are not really questions in the first place. It dismisses all religious language as a kind of nonsense that does not rise even to the level of being incorrect. Questions about what life means, why it matters, or where it points are questions about literally nothing. The perceptions that motivate those questions—our glimpses of a deeper moral order and transcendent purpose that whet our appetite for meaning—are illusions, shadows cast off by the chemistry and physics of our brains. More fundamentally, those questions are not really questions because the *I* that asks them, that seeks meaning and transcendence, is an illusion as well. There is no searching self but only the firing of neurons, which are reducible to the same laws that explain the rest of nature.

The claim that only physical things are real is based on an epistemological premise, an assumption about how we know what we know. That premise is that there is only one reliable point of view from which to see the world, that of a depersonalized observer. In other words, the most accurate observations of the world will always be the most emotionally detached, the most thoroughly drained of everything that makes them human observations. The more we strive to reach a vantage point entirely outside the self—like that of a camera controlled by a computer—the more clearly we will see reality. If one starts from that premise, then the conclusion that only physical things are real follows naturally. Since the only things that will appear real from a point outside the self are those that can be measured spatially and temporally, they must be the only things that *are* real.

It has often been noted that there is nothing scientific about scientism. The claim that there is nothing real except what we can see

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[4] See, for example, Thomas Nagel's discussion of physicalism, in the context of the mind-body problem, in *What Does It All Mean?* (Oxford, UK: Oxford University Press), 1987, p. 31. Nagel offers an extended critique of that philosophy in *Mind and Cosmos: Why the Materialist Neo-Darwinian Conception of Nature is Almost Certainly False* (Oxford, UK: Oxford University Press 2012).

from an external, impersonal point of view is not a claim that can be tested in the laboratory. But the point goes deeper than that. It is not merely that the claim is unscientific but that it is anti-scientific. Even scientists who have no specific interest in defending religion, who are motivated strictly by scientific principles, ought to reject reductionism simply because it is anti-empirical. Its sensibility and method are the opposite of science's.

Scientific skepticism is, above all, skepticism toward dogmatic claims untested by experience. The essence of the scientific method is to give priority to evidence over theory. To be sure, the scientific method takes into account that our eyes can lie. But, when experience and theory conflict, science always breaks the tie with more experience. It never permits theory on its own to override what we observe.

Reductionist reasoning moves in the opposite direction. It starts with the *a priori* claim that the only real things are those that we can see from an impersonal distance and rejects all evidence to the contrary. Specifically, it rules out all evidence that we derive from our inner lives. It dismisses self-awareness as a reliable source of data.

What is the most direct perception of reality that we have, from the moment when we wake up in the morning to the moment when we fall asleep at night? It is the perception of ourselves as autonomous, reflective beings. We experience our subjectivity, our personhood, more immediately than we experience anything else. That was Descartes' point when he argued that the one thing that he knew for sure was that his *I*, his conscious self existed—because, otherwise, who was having that experience of self-awareness? The self cannot be an illusion, Descartes insisted, because the very notion of illusion requires that there be someone to deceive. We might be mistaken in our belief that we have a body—or even that we have a brain—but we cannot be mistaken in our belief that we have a self—because it takes a self to be mistaken.[5]

Reductionists are unmoved by Descartes' argument. They insist that the self cannot be real because we cannot see it in the laboratory. When we probe the brain from the outside, we do not detect a self. We see the firing neurons that correspond to various mental states—including, perhaps, a sense of self—but we do not see mental states

[5] René Descartes, *Meditations on First Philosophy,* 2nd Meditation.

themselves. Hence, the self, as we experience it from the inside, must be an illusion.[6]

A number of researchers have offered theories that account for the experience of self-awareness by reducing it to neurological activity.[7] The problem with all such theories is not that they are wrong but that they are beside the point. The thing that they explain is not the thing that they purport to explain. They account for what we can observe from the outside, but fail to truly touch on what we experience on the inside, the very thing that they claim to account for. They tell us nothing about actual self-awareness—unless we assume from the outset that what we see from an external point of view is all that there is to know about our inner world. But in that case, they argue in a circle. They ask us to assume exactly what they claim to demonstrate: that inner states are reducible to chemistry and physics. That is why Thomas Nagel and other critics of reductionism consider all such efforts to explain the inner life from the outside futile.[8]

For our purposes, the key point is that the premise of those efforts is the opposite of scientific. If we are committed to empiricism, to putting experience first, then how can we justify writing off the most immediate perception that we have—our perception that we have selves, or rather that we *are* selves—simply on the basis of an *a priori* preference for one point of view over another? To dismiss direct evidence for no reason except prejudice against its source is not skepticism but dogmatism. The same can be said of related perceptions that reductionists write off as illusions but that seem irreducibly true to us when we look at reality from the inside—that we make choices, for example. We can certainly think of other instances in which we see real things from one perspective that we cannot see from another.

To be clear, I am not claiming that empiricism validates some version of Descartes' mind-body dualism. To suggest that our internal selves are as real as our external bodies need not mean that they are separate things, "the ghost in the machine" as distinct from the ma-

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6 See, for example, Michael S. A. Graziano, *Consciousness and the Social Brain* (Oxford, UK: Oxford University Press 2013), pp. 15–17, where he compares the experience of awareness to the delusion of having a squirrel inside one's head.

7 *Ibid.*.

8 Thomas Nagel, *The View From Nowhere* (Oxford, UK: Oxford University Press 1986), p. 16.

chine itself.[9] The more modest explanation is that mind and brain are different aspects of the same basic substance. They are like two sides of a coin, except that we cannot change which side of it we are seeing simply by flipping the coin. We have to change where we stand. Dual aspect theory teaches that to see our nature in full requires two different points of view: the view from outside and the view from inside.[10] It seems to me that, if we start with a commitment to empiricism, we cannot avoid considering some version of that theory.

So, in answer to our question—If both science and religion are empirical, then what is not empirical?—I would start with the reductionism that pervades so much of our discourse today. It is perhaps the chief contemporary example of a mode of thought that demands that we ignore what we perceive.

Having identified an adversary that science and religion have in common, we can start to see their commonality more clearly. We can say this much at least: The scientific spirit at its best defends religious *questions.* Why? Because religious questions are responses to direct experience: the experience of selfhood, of autonomy and moral agency, of value and importance, of the numinous, and so on. From the outside, those things seem illusory. But from the inside, they appear as real as any physical facts. The empiricism at the heart of science challenges us to recognize that the questions that we ask about those things are real questions after all.

Empiricism and the Search for Religious Answers

Does the scientific spirit's support for religious searching go any further? Does it validate attempts to answer religious questions as well? Does it sanction the work of weaving sacred narratives and constructing theologies, systems of meaning that cannot be tested from the outside?

I believe that it does. In fact, I believe that a true commitment to empiricism not only validates the work of making meaning of what

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[9] The phrase "the ghost in the machine" was coined by Gilbert Ryle as part of his critique of Cartesian dualism.

[10] See Thomas Nagel's explanation of dual aspect theory in *What Does It All Mean* (Oxford, UK: Oxford University Press 1987), p. 34.

we perceive from the inside but requires some version of that work. The same sensibility that pushes us toward scientific inquiry to make sense of what we see from an external point of view also pushes us toward the use of sacred language—or something functionally equivalent to it[11]—to make a different kind of sense of things that we perceive about the world from the inside, from the perspective of our humanness.

Before I try to make that case, let me offer some examples of how sacred language does that, how it serves as an interpretation of the seen.

When we speak of a human "spirit," what are we referring to? If we start from Genesis as opposed to Plato, then what we are speaking of is not a metaphysical construct, a non-physical entity imprisoned in the body, but rather something very visible: the difference between life and non-life, which is crystalized in the metaphor of breath.[12] In the story of creation, the Bible portrays God breathing human life into inanimate clay because that image captures the paradox that we perceive at the heart of our personhood: that our life is in our bodies but not entirely *of* our bodies, that there is a dimension to us that, while not separate from our physicality, is not entirely bounded by it either. The language of physiology has no way to capture that paradox, a paradox that, from our inner point of view, appears as a brute fact. Hence, we turn to sacred language to express what we see.

Another example: When we speak of the world as created, we are not speaking primarily of something that we believe happened in the past. Rather, we are struggling to capture something that we see about the world right now. (In this, I am following the ancient rabbis, who taught that to believe in creation means to believe that it is constantly occurring.[13]) We are naming something that seems irreducibly

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[11] I do not wish to define religion so broadly that it leaves no room for other types of personal meaning-making. It is important to respect those who define their search as secular. Nevertheless, it seems fair to say that secular philosophical or poetic language that cannot be verified externally is *like* religious language in that respect. Moreover, in many cases, such language is rooted in religious traditions.

[12] Genesis 2:7. The root meaning of the Hebrew *neshamah*, like that of its English equivalent, "spirit," is "breath."

[13] See, for example, near the end of the first blessing before the recitation of the *Shema* in the morning service: *hamhaddeish betuvo bekhol yom*

true from the perspective of our humanness but that chemistry and physics do not capture. That is that the world matters, that it has value and importance, that—beneath the mathematical relationships that correlate what *is*—there is an *ought* behind existence. The world not only is but *rightly* is. In speaking of the world as created, we turn to sacred language to align our understanding of the world with our raw experience of it.

A final example: When we use the language of commandedness, which is central to all Jewish discourse, we are not speaking mainly about something that occurred in the past, about which we know only second-hand. More fundamentally, we are expressing our experience, right now of being pulled by concerns beyond our own, of being morally compelled. When we look at other living things from the perspective of our humanness, we see more than chemistry and physics tell us that we are seeing, more than molecules and atoms. We see fellow creatures with a claim on our attention and concern. The language of commandedness gives us a way to name a force that we experience as immediately as any physical force: the moral gravity that draws us out of ourselves.[14]

In all of these examples, sacred language makes intelligible what we perceive from the inside in something like the way in which a scientific theory makes intelligible what we perceive from the outside—by organizing and contextualizing it—except that the voice behind this kind of language is a voice of personal engagement, not impersonal distance. It speaks from the perspective of a searching self embedded in community and tradition, not from a position of emo-

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tamid ma'aseh vereishit (". . .[God], who in goodness, renews continually, each day, the work of creation . . .").

[14] Specifically, I am referring here to the language of commandedness *bein adam lahaveiro* (between oneself and peers—or by extension other kinds of creatures). The language of commandedness *bein adam lammakom* (between oneself and God)—which is the traditional basis of ritual as opposed to ethical law—is a different matter. What concrete perception grounds that language? Franz Rosenzweig argued that the experience of the numinous is in itself commanding. Whatever ritual legislation it inspires is rooted in the raw experience of being pulled upon by the transcendent. See Rosenzweig's letter in Nahum N. Glatzer, *On Jewish Learning: Franz Rosenzweig* (New York, NY: Schocken Books 1955), pp. 119–124.

tional detachment. Hence, it cannot be judged by the criteria of a science.

Now we can answer the question that we asked above: In what sense does a commitment to empiricism push us toward the use of sacred language—or something equivalent to sacred language—to make sense of what we perceive about the world from an internal, human point of view? In what sense does empiricism validate not just religious questions but the search for religious answers as well?

If empiricism is a commitment to be guided, first and foremost, by what we perceive, then one of its implications—as we have seen—is that we must not favor certain types of evidence over others based on *a priori* preferences. Another implication of that definition—specifically the part about being *guided* by experience—is that we must make some effort to interpret what we experience, to make sense of it. Without some attempt to contextualize what we perceive, we cannot be guided by it. Raw observations have no meaning on their own. They take on meaning only as we organize them into a conceptual scheme.

Science weaves together things that we perceive from an external, impersonal point of view. It constructs theories that explain how they relate to one another, which can be tested by further observations from the same perspective. But, if we were to stop there—if we were to limit ourselves to scientific answers in our search for meaning and coherence on the grounds that only those answers can be externally verified—then we would be violating the first implication of our definition. We would be making a decision to be guided by just one type of data, and we would be doing so based on nothing but an arbitrary preference for one point of view over another. We would be declaring that what we perceive from the inside—simply because we perceive it from the inside—is unworthy of our work of meaning-making and must be relegated to the realm of unintelligible noise. In doing so, we would be placing ourselves squarely in the anti-empiricist camp.

So empiricism, broadly understood, must be a commitment to interpret what we perceive *on its own terms,* to recognize that different kinds of data call for different modes of comprehension. To interpret our experience even-handedly—to honor what we see regardless of which point of view we see it from—means to grant that we must process different kinds of information differently, in ways consistent with the nature of the information. Making sense means different

things from different perspectives. Hence, a commitment to be guided by experience requires openness to different definitions of what kind of sense we ought to try to make of it. If empiricism calls on us to interpret external data from the outside, then it calls on us to interpret internal data from the inside, to make things that we perceive specifically as human beings intelligible to ourselves *as human beings*. The logic of empiricism, the same logic that drives our search for scientific knowledge, pushes us to turn to other kinds of language, language that cannot be tested from the outside, to interpret things that we know but cannot prove, things that we see but cannot measure.

Science and Spiritual Humility

I have argued that the scientific spirit supports the work of religion in that the empiricism at the heart of science motivates and validates religious searching too. But when I claimed at the outset that science and religion reinforce each other, that was only half of what I meant. I believe that religion, at its most authentic, supports the work of science as well, and that it does so on the basis of another value that they have in common: intellectual integrity.

In the real world, as we know, religion frequently does the opposite. Even when the scientific world respects religion, religion often fails to return the favor. Reactionary strands of faith push back against the sciences. They hold up sacred narratives as quasi-scientific claims about the world, as refutations of geology and biology. In that respect, they trespass on science's terrain.

But the insistence that religion has the kind of knowledge that can refute science is not essential to religious faith. To the contrary, religious fundamentalism as we know it is a recent innovation. Before modernity, when religion had less to be defensive about, it rarely made such quasi-scientific claims about the world.

Consider, for example, biblical narratives. When the Bible tells us that such and such a thing happened, modern readers often assume that its purpose was to give us the kind of information that we would turn to science or history to provide, the kind of information that a cold-eyed witness would have reported had he or she been at the scene. But the actual character of the narratives belies that assumption. Biblical stories are not anything like what we would expect of an at-

tempt to nail down external facts. They are full of loose ends. They contradict themselves without apology. They ignore questions that a scientist or historian would consider crucial, and they concern themselves with claims that would have been impossible to check, even by one who was there at the time. All of this suggests that their purpose was never to tell us what a dispassionate observer would have seen. It was to paint a picture of reality according to what we today would call the inner point of view.

The same can be said of most pre-modern systems of theology. To the extent that ancient and medieval theologians made seemingly objective claims about reality—such as the claim that God treats people fairly—they generally did so in a way that was impossible to falsify. Again, it seems that their purpose was not to describe reality from an impersonal perspective but to describe the world as they experienced it from the inside. It was not external facts that they were trying to account for but the world as it appeared to them as meaning-seeking human beings. The question that is so important to us—How does reality look to a detached, impartial witness?—was not their question.

It was not their question because they did not distinguish as sharply as we do between the external and internal points of view in the first place. They did not yet have the kind of modern selves that strive to step back from their natural vantage point and see the world from an entirely detached position. The objective point of view as we know it, a perspective that aspires to exclude the viewer's personhood, did not yet exist.

The core dilemma that religion faces in the modern world is to choose what it will do about a way of seeing that did not exist during the centuries when religion evolved. In responding to that challenge, religion has two options. Which one it takes depends on which of two traditional traits it prioritizes—traits that it never had to choose between before: comprehensiveness and integrity.

Until modernity, religion could claim jurisdiction over all that we perceive, and it could make that claim with full integrity. Impersonal investigation, as we understand it, did not yet exist because we had not yet asserted the degree of psychological distance that would make that kind of inquiry possible. But, today, if religion still claims ownership of all that we see, it engages in an act of willful denial. And the cost of willful denial is always some measure of integrity. Reactionary fervor always takes a toll in intellectual honesty.

Alternatively, religion can prioritize integrity and give up its claim to comprehensiveness. It can admit that it no longer owns all points of view, that there are types of knowledge that it does not have.

It seems to me that the more historically authentic of the two options, the one that requires less repudiation of the past, is to choose integrity over comprehensiveness. Religion that is less than all-encompassing is still recognizably itself. But religion that is less than honest is distorted beyond recognition. When religion claims to have the kind of knowledge that its very nature precludes, it turns into a caricature of itself. It betrays the very heritage that it claims to defend and forfeits the terrain where it could still do good.

Choosing honesty, even at the cost of comprehensiveness, seems to me to be the only way for religion to preserve its reason for being today. And to make that choice—to renounce what it cannot do for the sake of what it can—leads naturally to honoring science as a complementary endeavor. The self-limitation that makes sacred language relevant today also makes science necessary.

This is what I mean when I say that religion at its best affirms the work of science, just as science at its best affirms the work of religion. The honesty that makes religion matter cannot help but honor scientific inquiry, just as the empiricism at the heart of science supports religious searching. The line that we have drawn between their jurisdictions—between the inner and the outer points of view—is not an arbitrary truce line between two adversaries. Nor is it an impenetrable wall between two worlds that know nothing of each other. Rather, it is a division of labor that honors the essential characteristics of each type of work and is sanctioned and supported by the best in each. The core values of science and religion point toward the same partnership. More broadly, they point toward a middle ground in the culture wars, a place of modesty and moderation in a world torn by extremes.

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