

Text of an interview of Brian Cantwell Smith by Gordy Slack, conducted on February 16, 1997 for the Center for Theology and Natural Science of the Graduate Theological Union, Berkeley, California, in preparation for a workshop (held June 8–10, 1997) on the relation between computer science and theology.

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GS: Would you say a few words about your religious background?

BCS: Well, a few words aren't going to suffice, because the issues interpenetrate a lot of what I do. But let's start with just the facts. I grew up as a member of the United Church of Canada, which was a single church formed (before I was born) out of a merger of the Congregationalists, the Methodists, and half the Presbyterians. On top of that, my father was a theologian—technically also an ordained minister, though he worked as an academic, not as a preacher. In lots of ways, I've been connected to his work. In fact, even though I've worked in (and been under the influence of) the sciences, there's a sense in which you can see me as running the family store. There's a fair amount of continuity, in a lot of the basic issues that come up in my work, between what I believe and his world view: his sense of significance, his sense of what it is to be religious, the theological presuppositions and so on and so forth that I was given as a child.

That said, it's pretty important to know that my father's theology is radical in a lot of ways. For example, he's written books arguing against the presupposition that propositional belief is at the core of any religious tradition. You can think of propositional belief as "belief that": I believe *that X*, you believe *that Y*, etc., for any X or Y. Lots of people think that to be religious is to believe certain things like that—for example, to believe that God exists, or that someday we'll go to heaven. In fact most people in this country think that to be Christian is to believe certain things of that form. But for many years my father argued that the tendency, in the modern western Church, to reduce being religious to the assent to certain propositions, is *fatal*. You simply cannot get at what matters about the tradition in terms of propositional belief. So there's a real crisis for the church. That's what he said. And I guess I pretty much agree with him.

So: did I grow up with a religious background? Absolutely. Does that mean I believe in God? Or that I believe this or that? Probably no, to most of those questions. The idea is to get deeper than those questions, not to either assent to them or deny them.

GS: I talked to Arno Penzias last week, who's participating in this project, and he said pretty much the same thing. He's said if you ask a Jew whether they want to become a Christian, they say, "Well what do Christians *do*?" If you ask a Christian if they want to become a Jew, they say "What do Jews *believe*?"

BCS: When the Shah fell, in Iran, the *New York Times* got in touch with my father, because he was an Islamicist, and asked him what Muslims believed. His basic answer was: "If you think that's the right constitutive question, you are guaranteed to not understand the Islamic tradition."

[chuckling] I think the *Times* may have gone on to ask other people.

GS: Of course the *Times* was calling at ten minutes to deadline.

BCS: That's right. Sound bites weren't his forte.

But I thought a lot about these things, as a kid. I remember refusing to be confirmed, at age twelve, because I couldn't believe the things they were telling me at church. Later, soon after I got to college (though I was still only sixteen), I quit going to church entirely. And I haven't really had what anybody in the outside (or inside!) world would call a religious practice since then. I found it untenable for lots of reasons. But I never stopped struggling with these things. In fact the very next summer, when I was seventeen, I was back at home, and I remember asking my father what he thought it was to be religious. His answer was: "*to find the world significant.*" That kind of metaphysical and theological question—what is the nature of being? what are the grounds of ethics?—those things have always mattered to me enormously. Pretty much always, but maybe especially when you're a student (me at the time, and students of mine, now) those questions, of where to find grounding, of how to anchor your life, what it is worth committing yourself to doing—they're pretty urgent.

GS: What, then, is your religious practice?

BCS: Well, in terms of what those words mean to most people, the answer is probably none.

GS: What about in your own terms? Can you distinguish between those activities you engage in that are religious and those that aren't?

BCS: No, I don't think that's right (that is, I don't really accept the question). I don't use the word "religious" much. I don't use it much myself; and I especially

don't use it much in conversation (unless a whole lot of trust has already been established).

Don't get me wrong. I'm completely prepared to talk about this stuff; it's not that I feel these things are private. In fact, I'm prepared to talk to students about this in class. I think it's critical that these things not be private, in fact. The issue is: what words do the best job of communicating, to other people, the issues in this whole area that really matter? The problem with the word "religion" is that it is such a trigger, both for those people to whom it means a lot, and for those people who are allergic to it. There are lots of both kinds. And my experience is that I don't in general have any more in common with people who are pro-religion (i.e., who consider themselves religious) than I do with atheists, with people who are outright allergic to religious language. In fact I often have more in common with people who *don't* think they are religious.

I'll tell you another story about my Dad. When I told him I was quitting going to church, because I didn't believe the things that they were requiring me to affirm, he said I was probably right not to believe them. "But you know," he said, "the sad thing is that you and your friends are going to lose any vocabulary in which to talk amongst yourselves about the things that matter to you most."

Thirty years on, I can report that he was largely right. A lot of people in my generation, a lot of post-Second World War people, a lot of people like me, have lost any vocabulary that can mean, for them, what it is that the religious traditions meant to the people who thought of themselves as religious. Another thing my father used to say: "If one person says, 'I believe in God,' and another person says, 'I *don't* believe in God,' then it's *impossible* for the word 'God' to refer to the same thing, for those two people" (first order logic notwithstanding!).

GS: Right. And even moving out of the realm of logic, it's highly likely from a psychological point of view that they mean quite different things.

BCS: Yes, it's likely. Of course two people who say they *do* believe in God may also mean different things as well. And that's part of what's really been problematic. But I never answered your question. Do I believe in God? Well probably not. But I guess I think I do have a sense of what that word means to at least some people who do believe.

What about the question of whether I have a religious practice? First of all, and this is kind of important, there's no one facet of life that is reserved for "religious

stuff”. It’s not a distinct sub-species of life to me, so it’s not a practice in the sense that each morning I do X, or each Friday I do Y, or anything like that. It undergirds the whole thing. Second, there’s this vocabulary problem. It’s extremely difficult to find words that come anywhere close to communicating, with people I know, what it is that “being religious” means to me. One thing I find myself doing is using different words with different kinds of people. You might think that was hypocritical, or opportunistic. But I think it is actually *more* accurate, not less. Still, it’s a struggle.

But, in terms of my practice—how do I live my life? what walk do I walk?—and in terms of what I take to be the issues that underlielife, then yes, religious things are kind of total. Absolutely, yes, it’s important to me—in all aspects of things.

For example: take this book I’ve just finished.¹ People who are religious in the sense I mean that word—I’m pretty sure they will find it to be a religious book. People who aren’t religious, *won’t* find it religious (I hope). That’s okay. And it’s not because there’s a secret or hidden meaning that the quote-unquote “religious” folks will see, that is invisible to the others. That would be *very bad*. That’s not what I mean at all. Rather, there’s something important to me, something I am trying to get across in this book. The people who don’t think of themselves as religious may perfectly well “get it”; they just won’t think of that kind of thing *as religious*, because they don’t think that what it is to be religious is what I think it (au fond) is. (Probably, like we said at the beginning, these will be the sort of people who think that to be religious is to assent to some weird or spooky sounding proposition.) So like I said: it’s not that they’ll misunderstand the book; they just won’t categorize that kind of understanding *as religious understanding*. And I tell you: that’s fine with me. I don’t care how people *categorize* it (in fact I’m rather distrustful of categories). What I care about is that we learn how to talk to each other about things that matter.

GS: Taking your father’s definition of, or explanation of, leading a religious life for a moment: Do you think that there are people who don’t find significance in the world? I mean can you be a human being and not find significance in the world?

BCS: I think that’s a terribly important question. But before I answer, I just want to say that we have a tendency, when asking questions like this—I think it’s become a kind of cultural assumption—to polarize such issues, to assume that words can be

¹*On the Origin of Objects*, MIT Press, Cambridge: 1996.

broken into opposites. So there is a tendency, in responding to a question like the one you asked, to think that, say, with respect to the meaning of life, it is something that people either “do” or “don’t” find. (Feminist epistemologists talk about this in terms of dualisms or binarisms.) And I think that’s a really unfortunate, deleterious aspect of a lot of the conceptual framings that we academics use. So, I don’t want to presume that “significance” is something that either you have or you don’t have, in a black and white way. I don’t even want to think of it as something that you have in a more or less continuous way. Simple continuity is a pretty paltry way to get at the thick meaning of a fully-lived life.

But given all that: *yes*, I do think that there’s enormous dissatisfaction with respect to that question these days—people feeling that their lives are hollow or unsatisfying, people feeling anonymous, people feeling that their social and economic conditions don’t give them a chance at a satisfying life, don’t welcome them, don’t provide them a way to participate, and so on and so forth. You know what I mean; everyone knows what I mean; it’s almost platitude to say this sort of thing (though just because it is a platitude doesn’t mean it isn’t true).

Here’s one way I get at it with students. Think about the rise of religious fundamentalism, I say to them, in this country, and in the Near East. You have the Christian right in this country, and you have fundamentalist Muslims in the Near East and North Africa. You may think of these as two separate phenomena, not as instances of the same thing (the press tends to treat them differently). But I think, in fact, there’s something very similar going on in both of them. What’s going on? Well, you know, no one sentence is going to avoid being glib, but we can caricature it like this: There is a deep unsatisfied hunger in a lot of people’s lives, an unfulfilled yearning, where people feel that certain kinds of materialist values, certain kinds of economic values, and so on and so forth, are not, fundamentally, satisfying. Popular values don’t give them the kind of anchoring, the kind of grounding, the kind of community, the sense of self-transcendence, the sense of significance, that they would like.

I believe that those movements recognize a palpable and urgent lack, a kind of hunger, a kind of yearning, a kind of frustration, in a certain sense the hollowness people feel. And the thing about these fundamentalist “religious” responses, is: *they’re providing answers*. Problem is, they’re providing an answer that I find *appalling*. In fact I’m scared stiff of their answers; I think it’s really very dangerous, in many, many cases. I think it caters to lots of things, forms of closedness for example, and bigotry,

and fascism, and so on and so forth, that I think are just terrible. But what I say to the students is, What are we on the left, what are we intellectuals, what are we academics *providing by way of response to that felt hunger, to that palpable yearning?* If we on the left, we academics, we intellectuals, don't have an answer, then we don't have much leg to stand on to criticize the answer of the fundamentalist right.

So, the question is: what would it be for us to formulate a better answer—an answer that does justice to people, in their plural ways of being; an answer that does not have all of the bad aspects of ideology and fundamentalism that I worry about, an answer that is inspiring, in the literal sense of giving people breath and hope, an answer that answers that sort of felt, that palpable hunger for anchoring, for meaning, for a sense of significance? That's what we need. That, approximately, is what I want to do for the next twenty-five years: I want to help work on formulating an answer to that question.

(Let me put in a footnote here. One of the reasons some non-religious people are so allergic to religion is because they worry about this last way of putting things. The problem, they say, is blunt: economic conditions and social injustice. Any effort to come up with a “religious” response to appalling conditions, to the absence of sustaining work, to street violence and homelessness and so forth, they view as little better than fascism. I want to say that what they say is extremely important: yes, we have to correct economic injustice too; that's part of what I take to be a condition on a palatable answer. On the other hand, I don't think economic conditions are enough. Hollow lives aren't a prerogative of the underclasses.)

GS: I wonder—since science is the place that so many people automatically look when they've turned away from fundamentalist theologies, or moderate theologies. I wonder if such significance can actually be found in science at all? I know the scientists I know best are religious, in the vulgar sense of that word, about subtracting significance from their perspective.

BCS: Well, first let me tell a story, then I'll try to answer the question. The story is about a friend of mine, who's Jewish as it happens, and a very serious Jew at that, who devotes a day or so a week to questions of Talmudic interpretation and so on. It's a very significant part of his practice. He is also a “big-S” scientist; worked for a while at Bell Labs; is now chair of a computer science department. We were good friends in graduate school, and this sort of question—about the juxtaposition of the scientific and the religious—obviously occupied us both. The funny thing was, and it

struck both of us at the time, I was completely unprepared to do what it was that he seemed entirely content with. He was viewing his scientific work as in point of fact religious, in a certain (to him) satisfying sense. But somehow I just couldn't do the same thing. I was visiting him, a couple of years later, and at one point I remember bursting out laughing. "I see," I said; "I finally figured it out! For you, what you want your scientific work to be is *worship*. What I want my scientific work to be is *theology*." And we both knew exactly what we meant.

But to get to your question. One of the things that people in science have tried to do is to subtract the issue of value. That's part of the "value-free" mythology of science. Now one immediate counter-argument to the idea of value-free science is that we don't eliminate *truth*, which is a value. It's a big value, in fact. If I come up with a theory that's *false*, that's not supposed to be good! I can't defend myself against you by claiming you were supposed to be value free! So even the most traditional scientist has to agree that some norm is operating in science; mainly the norm of truth. Given that, though, it is interesting to take the Greek separation of values into truth, beauty, and goodness—the three basic normative dimensions of life—and ask why science has hung on to the ideal of truth, and let go of the ideal of beauty and goodness. It is not a trivial question, not nearly as trivial as it might look. But anyway, the classic model of science, the reigning conservative ideology, is that yes, truth (and its cohort, rationality) are relevant in science, but the *other* values, like beauty and goodness and so forth, must be kept out. Actually it's curious; that's not quite right. Recently, in mathematics for example, some people are letting down a bit with respect to beauty. Theorems of mathematics are *elegant*, they say; mathematicians are driven by the *beauty* of the abstract forms. But as for goodness; well, you're not supposed to let *that* in. Scientific theories aren't *ethical*. In sum, it is something of a default modus operandi for science, these days, to valorize truth, subtract goodness, and perhaps allow a little beauty back in, to dance over the elegance of the equations.

I have two thoughts about this. In a minute I want to say a little bit about what I think is happening to the *content* of science, at this particular point in history, because I think we're in the midst of an extremely interesting transformation. But first, I want to make it clear, at the outset, that I am very respectful of why it is that the people who want to subtract values from science want to do that. Me, I don't want to do that, as it happens; I want to argue for letting certain kinds of other values back in (especially ethical ones). But I want to do so in a way that respects why science

originally threw them out.

Here's the gauntlet I'm prepared to answer up to, in other words. People who defend a "value-free" science—truth, the whole truth, and nothing but the truth—have perfectly legitimate fears of what would happen if we were to abandon that high standard. "If we let go of objective, scientific truth," they claim, "we will open ourselves back up to prejudice, bigotry, suspicion, obfuscation, lying, and of a whole bunch of other reprehensible things." I hope it is obvious that I agree that those things are terrible. So it is absolutely critical not to go back on those fears. Sure enough, we don't want to re-license inquisitions, or applaud rank subjectivity, or legitimize the crude and unchecked exercise of political power. Yes, sure enough, it was genuinely liberating for science and rationality to free us, during the Enlightenment, from such forms of oppression. "The truth will set you free"—all that sort of stuff. It isn't garbage.

Problem is, it's not enough, either. No one who is involved in social action thinks that a theory of political power is enough; ultimately you also have to *do* something. And so, if we are to fight *for* the things we believe in, and fight *against* the things we don't believe in (note: this isn't propositional belief, we're talking about here—this is "believe" in the etymologically original sense of "caring" or "giving your heart to"), then we have to be instructed in the ways of power as well as in the ways of truth. And to do that ... well, I'm just not sure it is enough to keep the *bad* things *out* of science; it might be time for us to bring some *good* things *in*. All in all, I just sort of feel as if "speak no evil; hear no evil; see no evil" is a tad out-dated, as a form of legitimation. If we are going to struggle for what we believe in, we have to have our eyes open, and be prepared to live a life that is full in terms of *all* the applicable norms and values and powers, not just truth.

So I don't want to let science slide back into a pre-rationalist era. I want the opposite: want to say, to the people who are afraid of how other forces can wreck science, something like this: "You are absolutely right. Those are terrible things. But you don't conquer your enemies by being *blind* to them, by keeping them out. Rather, they're so serious (just look at the society around us) we have to take them on explicitly." ...

Anyway, sorry to run on; I just feel strongly about those things. But let me get to the second thing I wanted to talk about: about what's happening with science, as we end the millenium.

Back some time ago, I used this word "significance." There was some malice

aforethought in my using that word. Since its rise in the sixteenth and seventeenth century you can sort of think of natural science as having gone through an enormous, several-hundred-year-long ascendance. It's cracking in some places. Since the war and the atomic bomb people worry about the untrammelled success of science, whether it won't do us in, and so on. But nobody could argue against its success. It's been an absolutely spectacular success story for several hundred years.

It's interesting that at the beginning of that movement there was the whole era of the alchemists, who were sort of shunned, who remain unappreciated for many hundreds of years. Once you got Newton, and Maxwell, and got science in place, then the alchemists looked like people doing all this crazy stuff. Now people are coming to realize that the alchemists were very important to the preconditions for the possibility of science. Not in any sort of transcendental sense, but in a pragmatic and perhaps even economic way—as necessary for establishing the conditions that allowed the rise of science.

I think the twentieth century is going to be recognized as the emergence of something that's on the scale of natural science. Namely ... well, I don't have a very good word for this, but basically an investigation or inquiry into things having to do with *meaning* or *interpretation* or *symbols* or *representation* or *information*. If you were a philosopher you would call it the realm of the *intentional*. The realm of the "semiotic" might be a better description, except "semiotics" has such particular and strong connotations, in some quarters, that many people are as allergic to it as other people are allergic to the word "religion." But whatever we call it, it is basically a realm of the epistemic or semantic or ... well, basically a realm of *meaning*. You see it in mathematics, you see it in set theory, and you see in the realm of the computer, the symbol manipulator or information processor. You see it in psychology, where people are dealing with representations and also processing information.

So my view is that, for the next couple of hundred years, we're going to have the era of epistemic or semiotic or "meaning" sciences, the way that for the last few hundred years we've had *physical* sciences. Of course the physical sciences are often called "natural" sciences. "Natural" is a funny word. I suppose it approximately means "not supernatural." So maybe this new era I'm talking about will also get called "natural science"—in an extended sense. It will certainly be a science of natural stuff, in the sense that if I say "hey, are you coming to the party?" that's a pretty natural thing to do. Meaning things, interpreting things, speaking language, figuring things out, dealing with information—no one can say that doing thing like

that is unnatural.

So, let's call the new era natural science, too. That means we could say something like this: "Look, what we've had for several hundred years is physical sciences. What we are now going to have, maybe for another couple of hundred years, is a new kind of natural science, to go alongside the old one: something like semiotic or intentional science." That's not to say that these new sciences are not physical. It's not as if we're going to throw the physical out and go off into some abstract realm. The physical substrate is an absolutely critical part of meaning things, as all the discourse about materiality and the body, and so on and so forth, is so quick to emphasize. In fact materiality, in literary disciplines, is a very trendy thing.

— *At this point there was a bit of a digression* —

BCS (continuing): This is a footnote, but the idea that the internet is "virtual" is crazy. Where did this idea come from? It's as material as anything; it just happens to have a different salient physics. It's a different materiality than lots of our other materiality, but it sure is material. As AOL knows only too well.

GS: I did look up John Searle in the index to "The Origin of Objects" and found you pointed this criticism at his claim that software is not material.

BCS: Yep; for sure.

— *End of digression* —

BCS (continuing): Anyway, get back to what we were saying. So what is this new realm of science? Well one way to describe it is as an emerging science that deals with signs and signifying. Signs, signifying, signification—as long as you understand those words broadly enough, these things are the essential basis of anything semiotic or epistemic or intentional. I think we're on the cusp of a new era of this kind of science.

A minute ago I mentioned the alchemists. I mentioned them because I think of the world's C++ programmers as essentially *semiotic alchemists*. The original alchemists were trying to turn iron into gold; today's alchemists are trying to turn C++ code into gold. By now we have perhaps fifty years of a very widespread, inarticulate, absolutely dedicated, and rather disheveled practice of people trying to construct arbitrary things out of symbols and information. It really is a very similar situation. And I wouldn't be too surprised, once we finally getting our heads around this new stuff

and understand it, if this first hundred years of inchoate programmers get laughed at and shunned, and are thought to be just all messing around, the way we shunned and laughed at the alchemists. But I bet, too, that present-day programmers are in fact, and will ultimately be recognized to be, as important as the alchemists were, in setting the stage for a profound new intellectual revolution.

So what does this have to do with religion? Here's the crunch. Signs, signifying, signification, and ... *significance!* But as we saw at the beginning, significance means *importance*. What's *significant* isn't just what has been mentioned or symbolized or represented or referred to, but what *matters*.

That brings me to the million dollar question. If twentieth century developments—computing and logic and psychology and mathematics and theoretical biology and so forth—is really bringing us to the verge of a new era in science, a new era that will take on not just the physical world, but also the world of symbols and meanings and signifying, *what will this new era have to say about significance?* Is the kind of significance it will be able to study restricted to a mere truth-like semantic relation, of one thing (like smoke) signifying another thing (like fire)? Or is there a chance, when all is said and done, that we won't be able to take on significance for real without recognizing that it means importance, too? In other words: is this new era of science going to require a broadening of our sights to include not just the factual, but also the ethical?

GS: Or, I guess, could you subtract the value of significance in the scientific study of it? I suppose the last hundred years of anthropology has faced that puzzle.

BCS: That's right. In fact it's doubly true! It comes up at the meta level. You could imagine an ideological traditionalist who, wondering how to study signs, would ask the question this way: is there a right—i.e., *true*—way to study signifying? And it also comes up at the object (base) level: is *truth* the only substantive connection that connects signifying acts to the world? But I'm not prepared—especially a priori, in a prejudicial way—to restrict myself to truth alone at either level. Of course this is counter to some trends. Even truth has come under fire in lots of postmodern contexts, so that people start talking about “endless plays of signifiers, signifying nothing.” It has actually proved very difficult to hang on to truth, in the face of things like cultural pluralism. Anthropologists certainly know this. How are they to assess the truth of the myths? Maybe they can think that they're not going to assess the truth of the myths at the object level, but what about at the meta level—what about the

stories they publish in anthropology journals about these myths? Are they meant to be true stories about myths that don't have any truth properties? Or are they just more myths, that they're spinning in the anthropology community?

So there's leakage. That's part of our present-day intellectual crisis. But I want to keep the main topic in focus. If we admit signs and signification into the realm of science, what is the full range of normative (value) consequence? Of course some people would say that this is all a pun—that it is only an etymological accident that “significance,” in English, means “importance,” and is also used (more technically) to refer to the property of signs, whereby they signify things. But I think that's *false*. From what I can tell from having studied intentional systems, the *truth* property and the property of *normative consequence* cannot, in fact, be wholly separated. So it is not an a priori argument on my part. What I am saying is that broadening the scope of applicable norms, at both the level of the theory and the level of the subject matter, is a *necessary* condition of this new scientific era.

In fact once you realize this, all sorts of things start making sense, on both sides of the fence (physical and intentional). For it is not just that *signifying* involves an ethical dimension. That same is true of materiality. *Material* evidence, in a court of law, isn't evidence that weighs some number of kilos, or that has an inertial mass, but evidence that *makes a difference*. Even the word ‘matter’ has a normative dimension, in English. Scientifically, we think of matter as “pure physical stuff.” But what “matters” is also a way of describing what is important. (I bet if you looked back over a transcript of this conversation, the word ‘matter’ will have occurred half a dozen times already.)

You might think that this, too, is a pun. But again, I believe that is wrong. In fact one of the things I try to do in my book is to reclaim “materiality” for the kind of thing that has importance, and pull it away from pure physicality. This is because—and in this sense I'm not far from various continental traditions, and an increasing number of people in analytic philosophy—I believe that ordinary material objects are normatively constituted. To be an object is to be taken by agent or society to be something that is *valued* as an object, something that one has to *defend* as an object. I.e., to say that “A cup is a cup” is a normative statement; a statement of object identity is a statement of values, not a statement of purely physical conditions. Does that mean I want to say a cup is not purely a material object? No, what I want to say is that it *is* a material object, but that *materiality* is *normative*. So in a funny way I end up being more materialist than most people (certainly most religious peo-

ple) would expect.

GS: Re-imbue matter with mattering?

BCS: Yep, re-imbue matter with importance. Put the mattering back into the matter. That's right. And then ... this is the dream ... maybe we can have an epistemic or intentional or semiotic "science" that actually understands "significance" in the ethical sense of importance. And a science that does so in a *good*, not just in a *true*, way!

Now I have to be careful here. Dreams can crash and burn. I don't really want to prejudge all of this. I don't want to say I have an a priori commitment to a claim that importance does in fact derive from signification, in the way that this new era of science is going to understand. Two or three hundred years from now, I can imagine, even if we have a kind of semiotic science or a broad range of sciences dealing with signification and interpretation and so on, that people of that day will say "Look, issues of mattering, issues of emotion, issues of social justice, etc., weren't more done any more justice by the 300 years of intentional sciences than they were done justice by the preceding 300 years of physical science.

But—and this is the point—I am not sure that that's right. I am not sure that it won't be the other way. That is: I want to be open-minded to the possibility that we do, in fact, need to take on importance, significance, to serious ethical considerations. In fact I have reasons for thinking so. See, one of my most basic metaphysical commitments is that, *au fond*, truth, beauty and goodness are not completely separable. Just as the physicists claim that gravity, charge, mass, etc., weren't separate, in the first 10^{-23} seconds of the universe, so too I don't think God made the world with truth, beauty, and goodness fully separated out, either. In fact I think the idea that they are distinct is rather our idea (and not necessarily the greatest idea, at that). Strangely enough, I even think you can see shadows of this being true in modern software design. Whether programs "work well", whether they're beautiful, and whether they're right—in practice these things aren't all that separable. In practice, that is, it is impossible to maintain a clean distinction between and among those norms.

GS: There are certainly good psychological explanations for why we would associate beauty and truth especially. Truth and goodness, I'm not sure I can explain either psychologically why such an association would evolve, since there are as many true things that can do harm as there are true things that can do favor.

BCS: Well, it depends on what favor means. It's certainly good for you to have a roughly realistic sense of what's going on. To live in a fantasy life with respect to your visual perception would not be a very good strategy, in heavy traffic. You'd quickly get killed. If good has to do with survival—and I bet you're running into this idea with your biologists—then evolution can be used as an anchor to tie the good and the true. This is actually a rather popular idea just now: a lot of people think that what is valuable about both biological and psychological states is that they lead to survival. As it happens, I am quite unhappy with subjugating truth to survival, because I can easily imagine situations where mass delusion would prolong survival. I.e., it is sometimes more advantageous not to understand what's going on. But here we're basically getting into the real philosophy. All I'm trying to do in this conversation is to open up the possibility of these questions. Actually that's not quite right; I'm trying to do something more. I'm trying to say that ethics may not only have to be brought into our new subject matter; it may also have to be brought into our methods. Not just *true* theories of the-true-and-the-good. True-*and-good* theories of the-true-and-the-good.

GS: The philosopher Ludwig Wittgenstein said something about how we feel that when science has answered everything it can, the questions of life will remain untouched. You seem to be suggesting that with the emerging science of semiotics, that what religion is like to you, or what you're meaning by religion in this conversation, and science may well actually meld together, and that science may begin to say some things that do touch the "questions of life." On the other hand, I see that you're remaining open-minded about that, you're not convinced necessarily that that's so, but you're opening up that possibility.

BCS: It depends on how we use the words.

There are several problems. First, I don't have a good word for this new era. Nor is it up to me, as a solitary individual, to prescribe a word. So terminology is hard. It is almost guaranteed that any expression I use—"science of semiotics," "science of intentionality," or whatever—will mean something to most people that is *not* what I intend. (Earlier I said that it was hard to know what to say to people about whether I was religious; this current topic is no easier.) So it is very difficult to know how to put this.

But I can at least say this much. *Science* is not going to shed light on these (ethical or transcendent) questions, if by "science" we mean what science has been

imagined to have been, for the last 300 years.> A whole panoply of assumptions underlie our present image of science, some of which we've already mentioned: about its having no values (other than truth), about its objectivity, about its formulation of the laws of nature, about certain notions of reduction, and so on. *That* conception of science is not going to touch the "questions" of life. That's what Wittgenstein said, and I agree with him.

The thing is, I don't think that conception of science is going to work to understand the era of significance, either. And so I am reluctant to say, "No, science can't touch what matters. You have to look elsewhere." Statements like that are rooted in a particular conception of science—the one we've had for 300 years—which may not last. For at least three reasons. First, if I am right that a new metatheoretic framework is going to be needed, in order to understand this new "Age of Significance"—that's really my name for it, by the way—then maybe science will simply change, to incorporate these new values. Stranger things have happened. Second, as I said above, I believe our current *conception* of science is inadequate to the task, but then our current conception of science is inadequate to explain *current* science, too—as so many people in the history of science, science studies, philosophy of science, etc., have documented in the last few decades. Even what it is that is currently known, scientifically, *and how it is that it is known*, are more politically and ethically infused than it is usually recognized in the reigning myths. So in a way the sorts of change I am envisaging may as much involve a deepening of our understanding of what's always been the case, as they do require a brand-new conception. And third, there are some signs that things are already afoot that are going to transform science as it is into something new.

In sum, for a whole lot of reasons, I am not sure that what we call "science" is all that stable. And so it may change enough to include other norms and other values, in its methods and its subject matters, in ways that could start to incorporate Wittgenstein's "questions of life." After all, the root Latin word, "scio," just means "to know." It doesn't intrinsically mean a certain *kind* of knowing, only appropriate for the sorts of physical phenomena that science has classically studied. So it may be flexible enough to incorporate issues of interpretation and meaning in a truly meaningful way. I don't know, though. I think it is too early to call.

You know you can equally well ask the same question of religion. Will religion be flexible enough to incorporate what we learn about symbols, interpretation, meaning, significance? Just as science may change, so too religion might

change—into something unlike anything ever imagined. Maybe, as much as a new science, we need a “new theology”: unlike any religious traditions we’ve ever had, altered so as to capture the imaginations and inspire a world-wide community of diverse people, and brought up to date—so as to incorporate the full range human questioning into questions of ultimate significance, able to give people a reason to live and an anchor for their commitments, able to help people understand why they care about the people they care about, why they should care about things that are important—maybe we need a new theology like that, as much as we need a new science. Or maybe they are the same thing. Who knows? I don’t know what will fire the imagination, calm the spirit, do justice to the world, and provide grounding for our lives. All I know is that it is urgent that we do our best to start figuring these things out.

I try to take a small step in this direction in my “Objects” book, sketching a metaphysical conception of the world that, I think, might be durable enough to underwrite both projects (or their fusion, or whatever). The basic claim is that no *other* form of metaphysical foundation (and no foundation we’ve had in the past) is strong enough even to underwrite science and computing and things that mundane, let alone questions of importance and ultimate significance. As I said above, even simple questions of individuation, such as what thing an individual entity is, can’t be answered, I believe, except with respect to an ethical frame—which already starts to encroach on topics of traditional religious interest. Having to decide if a fetus is alive, in the case of abortion, for example, is a question of individuals—and of course it is a question that matters. If you are going to act, based on your answer, you need to know what your commitments are. I don’t believe any science can answer whether there’s a person there, without recognizing that it is an ethical—perhaps even sacred—question. I.e., there’s not going to be a non-ethical science that can do justice to the requisite notion of individual. And basically, I don’t think there is any other notion of individual. That’s the only notion of an individual there is.

So I don’t know whether we should call it science, or religion, or philosophy, or metaphysics. I guess I don’t even really care (except of course that what you do call it has enormous political ramifications). I’m more interested in what it’s going to be *like*.

GS: Is it possible that a computer scientist, in trying to develop a machine that could recognize individuals, would provide the answer to the question of what constitutes

and individual?

BCS: I think it's unlikely. First of all, I don't think that's a question that has a black and white answer. If it has an answer at all, it's not in any ordinary sense of "answer." What I think is true, is that if computer scientists write programs which make decisions based on judgments of individuality, and those systems are deployed in society, then those systems *are thereby intrinsically implicated in questions with that kind of ethical weight*. The question is, what responsibility do you bear as a programmer, or as a computer scientist, in constructing systems that make that kind of decision?

I've been talking philosophy, all this while—but the questions aren't always that philosophical. So for a change of pace, let me come at some of these issues from a very different (and much more pragmatic) perspective. About fifteen years ago, a bunch of us were involved in starting an organization called Computer Professionals for Social Responsibility (CPSR). We were concerned about a lot of things, but what focused the organization at the beginning were questions about nuclear war: Reagan's Star Wars Initiative, and issues about launch and warning. It wasn't easy to figure for sure what was the case, but we worried that a lot of the Pershing II Missiles in Eastern Europe were set on automated (i.e., computer-based) launch and warning status, since you basically have eight minutes from the launch on the Soviet side to get those missiles out of the ground. Our question was: can you trust a computer system to make the right decision in eight minutes? That is, we wanted to get the right question on the table: are you prepared to threaten civilization as we know it, in that kind of time frame? It wasn't an abstract question of whether computers could or could not be trusted. People would ask, If you don't trust the computer would you rather have a person do it? Our answer was: *no*; neither a person nor a machine should do it; it is not a question that should be answered in eight minutes, *at all*. It just shouldn't be done. It's not the kind of judgment that can be made in that amount of time. Why? Because it's a sort of judgment that has such profound consequences. Anyway, this was basically our line.

Very soon, we encountered left-wing fundamentalists, who said, "You should never trust a computer with human life." But I don't believe that. I land at the San Francisco Airport in the fog all the time. I'm glad there aren't pilots peering out the windows trying to find the runway. In fact I think that being landed automatically by radar, or at least substantially assisted by radar, is quite possibly far and away the best thing to do in that situation. But if that's true, then you have to face up to the

question: “What *can* you trust computer systems with?” Very quickly, that brings you up against questions of what it is to trust, what kinds of decisions there are, how we can understand issues of that sort, and so on. Talk about biological taxonomization being hard! Taxonomizing the ethical structure of the sorts of decisions that computers are implicated in is terrifically difficult. The thing is, though—and this is the point—it is something that we are tacitly doing already. *All the time*. We are doing it because computers are already deployed, throughout society, often in so-called “mission-critical” applications.

All I want is for our imaginations, and our understandings, and our insight, to be up to these decisions that society is inevitably taking. I don’t think we’re going to stumble on the right answer by fortuitous accident. And I am concerned that computer science is intrinsically implicated in the answer. And if computer science (which I’m part of) is implicated in the answer, then I think we damn well better figure out what we’re doing.

Computers you know, are rather diabolical things. Although they were originally invented by a mathematician, they aren’t theoretical objects any longer. They are actual; they are participants, here in the world, along with us. They have material properties. They have economic properties. They affect political decisions. They are implicated in ethical decisions. And so on and so forth. They are wonderfully historically ironic, in fact—in the sense that they’re implicated in all kinds of issues that transcend anything frameable in the theoretical frameworks of the people who invented them. So our responsibility, as computer scientists and philosophers and social theorists and the like, is to come up with an *understanding* of computers that is up to the challenge that they intrinsically pose.

GS: Technological progress depends a lot on looking at things in new ways, in honoring innovation, and in trying on different pairs of glasses, so-to-speak, until you’ve seen things in a light that enables you to do new things. A lot of religion as it’s practiced, has a reverse emphasis. It emphasizes the importance of seeing things in a traditional way, of reminding oneself how things are to be understood, of reminding oneself why certain things are good and other things bad. How do you move back and forth between this striving for new interpretations, and at the same time honoring the past and the significance that we obviously inherit from it?

BGS: Well, as I’m afraid you will predict, I take exception to the question. I think it’s false on both fronts. Sure enough, science is supposed to look at things in new

ways, but there's a tremendously conservative structure underlying how you are supposed to look. You're supposed to have causal explanations of a certain sort. You have to have P be less than .05. You have to know whether a thing has been experimentally verified or not. The canonization of the scientific ways of looking at things is pretty strong. Within that, of course you're looking for new things. But again, although you are looking for things in new ways, what you're looking *at* is not supposed to change. In fact that is encoded in the famous scientific "empirical method": the basic assumption that the world is out there, independent of what you're doing. It has presumptively been there forever, that kind of stuff. Science as we know it, that is, presumes a kind of absolute "givenness" to the structure of the world. The world of science is not our *creation*. And so on and so forth. There is a tremendously canonized conceptual structure to science, in terms of what you understand, and what you are supposed to do to understand better.

Also, note that it is only the research scientists—quite a small segment of society, if you think about it—who are supposed to be doing this novel stuff. Mostly—in its application to build bridges and develop new drugs—the science itself is supposed to hold pretty stable.

On the other hand, it is my impression that anyone who is serious about the religious traditions has recognized that religion, too, can get old and encrusted. The history of the religious tradition is full of fights against the evils of stagnation and unimaginative bureaucratization. Similarly, consider interpreters of the Talmud, speculative theologians, mystics and religious writers. There are a tremendous number of religious traditions that emphasize the constant renewal and reinterpretation that is required in order to keep a tradition vital.

It is too bad, I think, that in discussions of science versus religion, people often select a Nobel Prize-winning physicist from Bell Labs, and then contrast their sense of science with a layperson's belief in the catechism or reincarnation or something like that. If we are to have Nobel scientists representing science, we should have great theologians, and ask whether the great theologians aren't looking for new ways as much as the new scientists are. Or else ask whether people in the street who have put their fingers in the outlet if they are trying to invent new ways to understand electricity. By and large they're not. If it's a hundred and twenty volts, it's going to hurt you. If it's twelve volts it won't.

Once you've got the thing at the same level on both sides (as I hope we will at these conferences), then there's no reason, or at least there is less reason, to suppose

that there should be any less room for increasing and deepening and opening oneself to new ways of understanding on the religious side than on the science side. By chance, I just saw the film “Open City,” made during the war in Italy (partly by Fellini), in which a priest collaborates with a profoundly good but otherwise non-religious fellow, in protecting various people against the German occupiers. At one point another priest challenges the first priest, asking him how he can collaborate with a non-believer. And of course the first priest says the evident platitude: that the alleged “non-believer” is seeking the truth and doing good, and that, as far as he knows, that’s what it is to be Christian. Surely any Christian worth their salt is going to recognize the truth in that.

GS: Yeah, on the other hand, it does seem to me that in general, the theological perspective, even among those theologians worth their salt, seems to invest a lot of hope in something that has already happened, and in taking to heart lessons already spelled out in the past. And, in general, it seems that science, especially in the culture of technology, looks for salvation in a future. It does seem that science looks forward in some sense, and religion backward, for its inspiration, if not for its power.

BCS: Sure, institutionally there is truth to that. Certainly the myth of scientific research is this constant emphasis on the “new, new, new.” And admittedly, too, the religious myths don’t have this “ever new” emphasis. But some of them nevertheless emphasize searching—though it is more of the personal variety. Many years ago I was married to a Quaker, for example, and for a while attended Quaker meetings. You know George Fox’s notion—that there is “that of God in every person,” with the concomitant rejection of the priesthood and so on—that each person’s salvation is for him or her to find. So in this sense the notion of searching is as religious as it is scientific.

On the other hand, you are surely right that searching is not as heavily institutionalized on the religious side as in science. But that doesn’t mean that that is okay. So much the worse for theology, in fact, I would say! Surely it has to change too, to come to understand better as urgently as science does.

Look, it’s not that I think scientific and religious practice are (or even should be) identical, that there no distinctions in the world, that everything should be reduced to one grand “Omm.” But it strikes me as tragic, if it is true, as you suggest, that the religious traditions aren’t out there trying to figure out new things. Think of the urgent problems they face. How can they simultaneously have faith in their own

traditions, and yet recognize the validity of other religious traditions? Can they help the rest of society develop a way to incorporate the generosity and justice of pluralism without compromising excellence, standards, and value? I.e., how can we have a pluralist world view that is neither vacuous nor shallow? Presumably it is too late, in history, for any religious leader any longer to say (or believe) anything of the form: “we’re right; and you’re wrong.” And yet, at the same time, it would be terrible if religious leaders were to water down conviction to something like “It doesn’t matter what you believe; we all have our stories.” Both of those positions—both of those limit cases—are profoundly untenable. But what is a viable middle ground? Or is it even a question of “middle”?

Formulating it this way, moreover, shows how intertwined the issues are with intellectual and scientific ones. For there is no greater problem facing the university, I believe, than essentially the same one: how to combine appropriate respect for pluralism with deep recognition of value.

GS: That’s a key issue for a lot of the scientists in this project. They have these two very powerful ways of gaining access to the world, but what do they say about each other? How do they coexist?

BCS: I think that’s absolutely right. What I’m saying is that, as well as being an issue *between* science and religion, it is also an issue *internal* to science itself, and also internal to religion itself. What are the Christians and the Muslims and the Zionists going to say to each other, for example? All of us have Abraham in our background. It’s not as if we’re as distant, culturally, as each of us is to Buddhist or Hindu traditions.

Admittedly, the problem may not be as acute for *individuals*. Few of us, individually, belong to more than one religious tradition; and few of us, too, practice more than one science. On the other hand, quite a few of us are scientists and also have, in one way or the other, religious sensibilities. So it may be that issues of pluralism arise more acutely for individual people across the science-religion boundary, rather than within either side. Still, it is important to recognize that the issue itself—the issue we are dealing with at this conference—is not unique to our setting. It is one of the day’s great questions—a perfect example of a sort of questions that the two traditions could collaborate on *in general*.

I even wonder whether it might not be a more profitable topic—if only because it would deepen the collaborative sense of “we.” You and I are sitting here, at

the moment, having this interview, looking at each other. But if we were to sit side by side, and look out on those mountains over there, and talk about whether California is going to fall in the ocean, or whether the coastal commission is doing an adequate job protecting these hills, our sense of having in common something, something larger than us individually, would constitute a bond. Perhaps CTNS could someday have a conference on how to combine a sense of norms or standards with an adequate sense of pluralism, and people could speak to that common problem from both the science side and the religious side.

GS: Let me change direction for a second and talk about God. Does the idea of God work into your view of life at all? I know it's a word that you use occasionally. There was a quote in your book that I thought was quite lovely. You write that "the world has no other." Unless the world itself is defined as God—a definition that might wear out pretty quickly for its simplicity—is there any room in this perspective for God?

BCS: I heard it said, once, that one of the most politically shrewd ideas of Christianity was the construction of the trinity. The idea was that many people—pastors and parishioners both—had a great deal of trouble with one of the three, but most felt comfortable enough with the other two, leaving them with a majority. I remember asking some ministers about Jesus, God, and the Holy Spirit; some of them said they just couldn't figure out about the Holy Spirit, they were just kind of put off by that, but that God and Jesus were fine. Other people, other pairs.

GS: If you answered yes to at least two of the three above questions you belong.

BCS: Something like that. And sure enough, my reactions are asymmetrical. I am very resistant to the notion of Jesus. I admit it; I get quite put off. But God and the Holy Spirit don't trigger that kind of allergy. That is not to say that either notion figures in either my language or my thoughts—internal or public. But I feel as if I know what the tradition I come from was getting at, with those notions. And that I feel appreciative of.

Was it Tillich who said God was the ground of being? To the extent that I have any use for the word "God"—or perhaps what I mean is that to the extent that I *understand* the word "God," since I don't really use it—it is as a word for everything. For me, it is a reminder—it connotes the *moreness* of everything. I'm not sure, but I think it is part of the muezzin's cry to say something like "I know that

Allah is greater than I know him to be.” There’s a wonderful humility implicit in that phrase. So to the extent that the word “God” means anything to me, it absolutely does *not* mean anything like a person or anthropomorphized figure. It doesn’t mean anything that has agency in the world, that is separate from the world in any way. There are Kabbalistic stories, I understand, about how at the beginning of the universe God had to evacuate a space within himself in order to make room for the world to exist. That’s certainly wonderful poetry, and it makes a wonderful point, but I don’t believe it. I suspect my notions are much closer to Buddhist notions than anything recognizably Christian—except that I don’t know how rare it is in Christian theology to take God to mean something like the “ground of being.” “The world” is kind of a cheap way to refer to everything there is. “God” is an expensive way to refer to everything there is (and many people are allergic to it). So I don’t know.

GS: Clearly you don’t use that definition, since you say in your book that “there’s nothing larger than the world.”

BCS: Well, again it’s just this problem of communication. If you have a people who have a roughly common sense of the totality then it’s useful to have a word that doesn’t name the totality, because names don’t work that way. Names require a figure/ground separation, this is not going to be a figure because there’s no ground. But if you have a kind of shorthand way of orienting towards everything, then in fact maybe the word “God” is a good word. But in 1997, in post-industrialized western U.S., using “God” as a word to allow people to remind themselves to orient in total probably doesn’t work very well. I don’t know that we have any *other* word that does work in toto. And that, I think, is what is urgent. I’m not really interested in whether I believe in God. I probably don’t, in the sense that I don’t assent to the proposition that most people would think those words express. But what matters to me is not the future of that word, selling it short or buying it long. What matters to me, throughout all of this, is *what terms those people who don’t find religious vocabulary serviceable are going to use to mean such things*. What words are going to carry that kind of meaning for us? How are we going to speak? how are we going to talk to our friends about what matters to us?—if we’ve rejected that dimension of our cultural heritage which has propped up that ultimate question? It is pretty undeniable that the religious traditions have been the locus where most ultimate questions get framed, for most civilizations, over most of their histories.

GS: And where significance is derived, too.

BCS: Ahh, yes—but it’s tricky. Whether significance has been *derived* from there, or whether it’s just that the religious side of the house is where significance has been *recognized* and *affirmed*, isn’t so simple a question. But I think it’s more the latter. That is, it seems to me closer to the tradition not to say that you derive your significance from church, but that going to church *reminds you* of your significance.

GS: But they might say that you derived your significance from God.

BCS: Well they might. But then the question is, What is God, such that you derive your significance from Him? And on that, people vary. Some people of course are reputed to think of God as a delineated individual, of a sort that is different from trees. But I just don’t understand that. This goes back to your earlier suggestion that science searches for new ways of understanding, whereas the religious traditions don’t. It seems to me urgent for the religious traditions to recognize that the word ‘God’ isn’t doing much, these days—not only for people outside the religious communities, but even for people within the religious communities, if it is taken to mean something separate. I doubt that they’d want me as a theologian, but that is what I’d be tempted to argue. That the idea of a “separated” God just doesn’t make sense, in the context of our twentieth-century understandings of the world. In fact it seems to me dangerous. To license it—without some pretty fancy concomitant expansion—is liable to engender a sense that religious understanding can part company with other (e.g., scientific) understanding and not be responsible for showing how that can be so. That is, it is in danger of not taking responsibility for showing *that the world is one*. And that just seems to me shabby. Showing that the world is one is exactly the kind of ultimate question that religious traditions should be focused on.

That’s a great question: what could a conception be, what could a practice be, that would enable people to orient towards the grounds of ultimate significance in a way that’s modern? If theologians are not thinking about that, they sure ought to be. That’s certainly what I am trying to do in *Objects*, but it is of course one person’s paltry start. And words are a problem. We can’t solve this thing alone.

GS: If to be religious is “to find the world significant,” God might be defined as that which makes the world significant. But there may not be that much you can say beyond even that.

BCS: That's not too far from Tillich's conception of the ground of significance. But I confess to having trouble with the way you put it (that God *makes* the world significant): it sounds *causal*, as if God is the cause, and the world's being significant is the effect. I.e., as if God made the world significant the way GM makes Chevrolets. People like thinking that way; they are happy with cause and effect; cause and effect seem to be part of the great science we all inherited. But I don't like it because it makes God and the world *two*. And the minute you have two, I don't think you are in the realm of God any more. So if I were to say anything (not all that likely), I would say God is more like *the world in all of its significance*, or something like that.

Moreover, it is my sense that most religious traditions, if you push, don't say that "something makes things significant," but rather that things *are* significant in virtue of their existence. Significant in and of themselves. If that's not Christian, then I guess I'm not a Christian; it's not for me to say what that tradition is. Though I do think that any attempt to formulate what the word "God" means that tries to specify it in articulated terms is going to fail. What's most important, if we are going to keep that three-letter word around at all, is surely not something *articulated*. If people could have a sense of what it is to live life in such a way as to take the significance of the world seriously, and find significance for themselves therein, then I think a practice could grow up in which people used the word to remind each other of that common orientation. But it is the *orientation* that matters; not the *formulation*.

I suppose all I'm saying here is that no one thinks that religious language is enough to make anyone religious. (That's one reason why religious and non-religious people don't share enough language for there to be a sentence they can both entertain, such that one agrees with it and the other disagrees.)

Language is a very big problem. When I first moved to California in 1981, I looked at a bunch of churches. I was put off, though, by prevalent tendencies for the services to orient towards personal psychology and social justice. I felt that I could get better personal psychology from psychiatrists, and better social justice from political action groups and political science. So I didn't go back. The two traditions that had the most power (though I didn't take either of them up, either) were Quaker and High Episcopal. Some people found that odd, because Quakers and Episcopalians are often thought to be at the opposite ends of the Protestant spectrum. But they had one crucial thing in common: they didn't try to translate religious language into propositional form. Quakers, of course, did this by not putting weight on formulation at all (they're silent). And the Episcopalians were okay as well, because it turns

out that the 1929 Book of Common Prayer, which they use, is so ritualized, and so poetic, that in point of fact it is capable of much more radical theological interpretation than the supposedly more liberal mainstream churches. So except for these two I was disappointed; the attempts to modernize had ended up being radically restricting, because they tried to formulate particular, concrete, modern interpretations of things that I think aren't so effable. I think that's a mistake.

On the other hand I have great respect for how hard it is to say any of these things in a way that *is* tenable.

Poetry is some help. A poem can orient you towards things that it itself doesn't have to name. Plus, people understand that even though a poem is not factual, it's also not thereby false. There's a lot of that, I think, in traditional religious language. But at the same time poetry is too marginalized, right now, to play as important a role as we need. I don't think, given the scientific, technological, economic, and political state of the industrial west, that poetic language alone is going to allow people to forge a requisitely strong common sense of purpose, and adequately give voice to the things that matter to us, individually and collectively.

So what language *will* work? I tell you: I don't know. This is an absolutely urgent question, without evident answer. One thing I know: we can't presume that we know how language works, and then, using that presumptive understanding, try to figure a language that will articulate our sense of significance. Current theories of language are too rooted in the prior scientific (formalist) era. But language—fortunately, language is not hemmed in by what we think of it. It's fertile, fecund, and not, I think, exhausted. So I'm still optimistic. Maybe we can find—even hammer out—some language that will go the distance.

GS: That might be a good place for us to stop. Thank you.

