Science, Religion and Naturalism: a response to Hall and Hall

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This article (in three parts) is a response to the one called "Is the War Between Science and Religion Over?" by Dr. Norman F. Hall and Lucia K. B. Hall, which can be found online at ***https://americanhumanist.org/what-is-humanism/war-science-religion/****. A version of the Halls' essay was published in the Humanist, May/June 1986, p. 26. The main claim of that essay is that philosophical naturalism (as commonly defined) is the only possible basis for science. The main claim of my response is that this misconstrues the structure of science and also fails to grapple with some categories which analytical study cannot, on its own, entirely comprehend.*

Part 1

Introduction

It is widely believed that there has been a long conflict between science and religion. This is like saying there has been a long conflict between parents and children. 'Well yes', one wants to say, 'there has been conflict, but that is far from the defining characteristic of the relationship.'

By some it is believed that the science-religion conflict has been won by science, and now religion just looks on either politely or ignorantly. But the truth is that, like the one between parents and children, this is not a conflict which is won exactly by either side. Rather, it morphs into a greater understanding of each side for the other. The analogy with family tension is also apt because historically and intellectually, science is the child of religion to a considerable extent (I will elaborate on this below).

In this piece I will take up this issue in a practical way by responding to an article where the 'conflict' or 'incompatible' model has been laid out intelligently for the benefit of a wider readership. The article I mean is the one mentioned above, first published in *Humanist* magazine some years back, and circulating on the internet. The article begins: "It appears to be a widely accepted opinion in America that the long conflict between science and religion is at an end." By starting out like that, the authors Hall and Hall take conflict as the main theme, almost the defining characteristic. Whether they do so as a deliberate rhetorical move or in honest ignorance I don't know.

It is tricky to respond helpfully when the issue has been pre-judged in this way. It is like dealing with an essay on women that started out by referring to cooking and household appliances. Where do you start? You start by pointing out that a considerable amount of assumption and pre-judging the issue has been smuggled in at the outset.

Hall and Hall are mostly concerned with naturalism/materialism as a philosophical basis for science. They think it is the only basis there is or could possibly be. In this essay I will mostly

disagree with Hall and Hall on the way science and naturalism interact. This is purely a matter of analysis in the abstract, not a political or religious matter. But it does bear on political struggles. While not myself a humanist, I often find myself on the humanist side of debates in American public life. But humanism, and any other worldview, is best served by correct analysis of ideas.

A little history

First, a brief comment on the history.

Interest in the natural world and interest in ultimate questions about meaning and the good life have often gone hand-in-hand. For reasons such as this, in the history of scientific progress there is a significant overlap between thoughtful religious commitment and notable scientific accomplishment in the people contributing.

Scientific study was carried out in the ancient world, in medieval times and up to the present by people with various religious commitments. Those with theistic religious outlooks – which is the majority in the period up to early 20th century, and a significant fraction (around one third) since then – saw their scientific activity as part of what it is to live appropriately, putting to use ones intellectual gifts in the pursuit of knowledge. This was not a long conflict but a long progression with occasional tension. We choose to say that people such as Isaac Newton, James Clerk Maxwell, Gregor Mendel (and a host of others one could name) were 'scientists' or 'scientific', and so they were. But they were also religious, and not just in a nominal or little-considered sense. Their religion is indicated by their documented and carefully considered views about life in the round. In mathematics too a considerable proportion of the leading lights have been religious people.

"Science and religion are diametrically opposed at their deepest philosophical levels" say Hall and Hall. If this were true then religious bodies such as Christian churches would not have furnished large amounts of support for science, in infrastructure and finance, from the high-medieval period to the present day. But they did furnish that support. For example, the church of Rome has supported scientific work of Jesuits and Franciscans, among others; the contribution to science from religiously observant Jewish people has been large in proportion to their numbers; in the period roughly 17th to late 19th centuries the Anglican church was one of the chief financial and general promoters of science in England, and elsewhere in the same period many mathematicians and scientists had their formation either in or supported by religious communities. The problem was that established churches were exercising what amounted to a monopoly. That monopoly (especially appointments to academic positions in universities) had to be relinquished, and this happened, but only after a struggle. That dispute (around the end of the 19th century) was not about the value of science but about the right way to promote it: jobs at universities funded by the State had to be laid open to everyone, not just those with Christian commitments.

Within this history there were the tensions around the widening understanding of the cosmos, the age of the Earth and the evolution of species. In all of these cases the disputes

were scientific: they continued for as long as the scientific data were unclear. In each case some churchmen argued incorrectly while others argued correctly. Those that were scientifically trained brought that training to bear.

The above does not give the whole picture, but it is sufficient to make a reasonable person sceptical of the claim "Science and religion are diametrically opposed at their deepest philosophical levels." In the next part I will show why the claim is indeed false.

Part 1 of this response finishes here. The aim so far has been to set the scene and to point out that one needs to be alert to unjustified assumptions. One should also be aware of the richness of the interaction between science and religion. It is demonstrably untrue, from a historical perspective, that that interaction has been primarily conflict, but conflict and tension have been present. The parent/child analogy is reasonably apt here, from a social and cultural point of view. But we also need to think about philosophical points which will be treated in Part 2.

Part 2

Deepest philosophical levels

The following claim appears next in the essay by Hall and Hall**:** "Science and religion are diametrically opposed at their deepest philosophical levels." I will show why that claim is false.

Hall and Hall continue: "Science, on the other hand, assumes … that all forces which do exist within the universe behave in an ultimately objective or random fashion." (the 'or' here is an either/or; they mean either repeatable or random). But that is not the starting-point of science. Science makes no claim at the outset to know that everything that happens falls into those two categories (repeatable or random). Rather, the starting point is to take an interest in what does happen, and to find out as best we can what kind of thing is going on. The starting-point is a desire and a self-discipline to learn to what extent processes are repeatable, to what extent random, *and to what extent neither*. An example of a process which is neither simply repeatable nor entirely random is a decision by a person to think a certain way or make a given choice when more than one is available (I mean here a meaningful choice, as opposed to an inconsequential one).

"The universe as a whole is assumed to be neutral to human concerns" say Hall and Hall. Well that depends. "The universe as a whole" is a bit vague. Obviously a collection of galaxies, *qua* galaxies, i.e. ignoring for a moment whether any sentient beings live in them, has no cognition so no opinion on human concerns. But the universe also includes our fellow humans and the other life on Earth (and possibly elsewhere), and they are not neutral to human concerns. The issue now becomes whether our ideas about ethics are entirely up to us, or whether they can be right or wrong. If they can be right or wrong then the 'universe', in the sense of the entire reality we have to contend with or measure up to, is

not neutral. A reasonable position here (not the one maintained by everyone, but it is reasonable and consistent with science) is that certain ethical principles are indeed absolute and not mere inventions or conveniences. For example, the principle that one should go about science in an honest manner. Or, a more extreme example, the principle that one should not kill another person merely because they caused one some minor inconvenience. In this sense, the reality in which we live and learn is not neutral to human concerns. We can go wrong, and we can go right.

In their next paragraph Hall and Hall describe a hypothetical person called "the scientist" going about a controlled experiment. Then they add the remark, "Clearly, such a controlled experiment would be impossible if our scientist were required to entertain the possibility that some factor exists that can affect the color in the test tubes but which can never be controlled in these ways." This is a very odd statement. The scientist is, after all, a reasonable person. Of course they entertain the possibility that some further factor may exist which they don't know about and can't control for. In the past this included things like radioactivity and microorganisms; in the present it includes whatever we don't have much understanding of now.

But let's put that to one side; I think we can agree that most laboratory work is pretty well controlled and we know pretty well what we are doing and what we are finding out. The heart of the issue is not there.

The heart of the issue is that controlled experimentation is not always appropriate behaviour and it is far from the whole of human life.

Controlled experimentation is inappropriate whenever one person is interacting with another, person to person. I don't mean when we do a skin patch test or something like that. I mean when we engage with each other as people. In this situation 'control' is the very antithesis of what we should be aiming at. We should not be treating another as if they were an object at our disposal. Nor should we be using them merely to further some programme of our own, not even our desire to learn. It is in this personal situation that the interplay of science and religion plays out. You can have good science and bad science (e.g. misuse of data etc.) There is also good religion and bad religion. The way good religion interacts with science is to embrace the value of the scientific method in its proper role and place, but to add that when we live as a community of relating persons all sorts of further issues come into play. Some kinds of religious commitment (the good kinds) include effort to be careful about rationality and realistic about the limits of knowledge. They may also include willingness to celebrate certain outcomes in the world as showing something of what the world is all about. Outcomes where time touches eternity.

Where time touches eternity

An example of such an outcome is the growth in moral stature of individual persons – their growth in wisdom and generosity and things like that. It is of processes such as this that we

may speak of *inspiration.* We may also speak of *inspiration* in the context of remarkable work in science or art, business or political leadership and so on.

Why are we using the term 'inspiration'? Now I don't want to trick anyone into saying things they did not mean. An atheist might want to use a word like 'inspired' while re-defining it so as to have no connotation of anything coming *in,* of any source other than the natural physical world. But my aim is to show what the word may mean if we allow its original meaning. That is, if we allow that the physical world is not entirely self-contained. In that case inspiration can be seen as the result of a *meeting*.

To say that inspiration involves a kind of breathing *in* is to describe human experience correctly and aptly. It is like a form of meeting -- a meeting with Reality. And when we speak of inspiration as a kind of gift -- a gift from that which is greater than the physical world -- we are trying to describe human experience as honestly as we can. We find it appropriate to invoke ideas of giving and receiving, and ideas of gratitude. Thus truthful speech about human life does not consist only in the description of impersonal forces of repetition and randomness.

This is not to reduce the contribution of the inspired scientist, artist or business or political leader. What we are saying is simply that they have managed to embrace some element of truth and beauty that was real enough before they came to appreciate it. Also, we are saying that the qualities of beauty and truth in what they have embraced are what, in large part, enabled them to see and grasp it. When inspired, we are like an explorer seeing a new vista in the landscape: things stand before us and beckon. Progress in science, and in art and governance, is not a matter of simply invention. It is more like discovery and a subtle interaction with what is so. Often the crucial insight comes freely, like waking up, but only to the prepared mind.

When I look around at the everyday materials of my home, I notice the stones of the walls and the wood and slates of floor and roof, also the pipes and clean water, the electrical wires and lights, and the plates and cups in the cupboard, and so on. All of this is a result of a coming-together of elements of planet Earth (rock outcrops, mines, plants, seas) on the one hand, and, on the other, the work and discoveries of people who went before us. They enabled the raw material to be shaped and transformed. In this, inspiration has played a role of huge significance. We live by the myriad outcomes that came about as people opened themselves to inspiration and passed on what they found. From the time of our paleolithic forebears who made fires and flints, up to present-day brain surgery and inter-planetary exploration, the process has continued in every era.

The terms 'inspired' and 'inspiration' are so much a part of the language that we often take them for granted. The atheist may use such words in a figurative sense. The theist uses them in a fuller sense. This is not to say the process thereby becomes clear and evident. It remains subtle and to some extent mysterious. What we know is that we benefit from it and we find it appropriate to express gratitude and a hunger for more.

So far the examples I have given could be seen in impersonal terms: we perceive impersonal truths and ideas. But another central form of inspiration is the experience of mercy and

forgiveness. This can take the form of a profound progress in someone's life when they come to understand that their past failings do not define them and they can move forward. Slowly but surely, we learn that our situation is in a network of relationships which together express an underlying truth: the truth that reality is neither oblivious to us, nor disdainful of us, but at once hopeful and demanding.

Part 2 of this response finishes here. The final part (Part 3) will continue to reflect on science and religion using the essay by Hall and Hall as a discussion partner. As an interim conclusion, let's note again the two main points of Part 2.

The first main point is that when one person interacts with another, the purely analytical stance is incapable of responding fully to, or grappling fully with, many central aspects of what transpires. If by 'science' we mean the attempt to construct models based on what we can comprehend from one step removed, attempting objectivity, then science is not the whole of what gives insight and understanding. This comes to the fore in personal relationships. The second main point of Part 2 concerns the complete truth of individual human life and of human history as whole. Human life and human history is, and has always been, an interplay of what we bring and what we discover. In that interplay something tremendously valuable has grown, both in the courage, kindness and wisdom of individual people, and in the principles of fair governance, art, science and the like which support our wider culture. Such outcomes were not simply written into the initial physical conditions so as to emerge later like a clockwork. They emerged in a voluntary meeting which is correctly and insightfully called *inspiration*.

Part 3

Models and their limitations

Let's now take up the next part of the essay by Hall and Hall. "… a nonmysterious, understandable, material universe is the basic assumption behind all of science" they claim. No: the basic assumption, as I said in Part 2, is that we don't know what the universe is like but we would like to find out. This is not to suggest that empirical work commences with no working model in mind. One does need some sort of working model, and the materialist hypothesis is such a model, *but one does not need to think the model is full or final*. Rather, the model is adequate for some purposes. We adopt methods and models appropriate to the kind of situation we are dealing with. If we are dealing with questions about the patterns in the way inanimate matter behaves, we adopt one method. If we are dealing with questions about whether our community is acting fairly, we adopt another method.

Experimentation of the kind that can reveal impersonal patterns is the appropriate method to find out about the impersonal patterns of the physical world. Sensitive discussion drawing on all aspects of life is the appropriate method to find out about justice.

"Naturalism or material monism is not so much the product of scientific research as it is its starting point" say Hall and Hall. Again, no: to be scientific is not to assume at the outset

that you already know what you are dealing with. To be scientific is to adopt an attitude of interest and receptivity, along with an appropriate form of scepticism; it includes to appreciate the value of controlled experimentation and the application of reason, and it also includes an awareness that controlled experimentation is simply not the appropriate way to behave in many central situations of human life.

“Only by making the assumption of materialist monism will the scientist be able to trust the universe, to assume that although its workings are blind and random it is for this very reason that they can be depended upon, and that what is learned in science can, to some degree, be depended upon to reflect reality.” (Here 'materialist monism' is technical language for the philosophical idea that matter is all that is, and this matter has one nature not more than one.) I reply that the workings of the universe are not entirely blind and random because they include the behaviour of our fellow humans, and other living things, which are neither blind nor random. But I am happy to allow to Hall and Hall a little leeway in their use of language here; I get the gist of what they are saying. But now I wish to show the failure of logic in their statement about materialist monism. I will show it by a counter-example.

Trying another model

Hall and Hall assert “only by making the assumption of materialist monism” can we trust what is learned in science. So let’s suppose we make some other (carefully-chosen) assumption, and see what happens. We don’t assume a capricious universe; that would indeed make science impossible. But we could, for the sake of argument, assume that every person we ever met had *a capacity to make choices* about what to think next and what to do next. And we could also, for the sake of argument, suppose that this capacity is *not fully captured by materialist monism*. Under that supposition our ability to do science will not be diminished in the slightest, because we already know that scientific model-making is not the whole story of what is involved in inter-personal relationships. Our capacity for, appreciation of, and trust in science will be undiminished.

To be clear, what is going on here is not that one has to think there is some sort of extra ingredient in humans that is not in other things. Rather, one holds that the assumption commonly known as naturalism does not capture the entire truth about anything, but this lack will only be manifest in some situations. The incompleteness won’t be noticeable in the description of orbits of planets or small chemical networks or things like that. But it will be noticeable in the description of what goes on in silent meditation and in the growth of persons. One holds that metaphors such as *garden* and *family* give truthful insights about our world and its meaning. The universe is somewhat like a garden where life can grow and meetings can take place. And we relate to the basic truth of things somewhat as a family member relates to a parent. That parent we may call God. The name is appropriate because *our fullest encounter with reality is not entirely impersonal*. This is the heart of the theist claim.

Purpose and design

"The postulate of a purposefully designed universe, as we have seen, destroys any meaning we might hope to find in the experimental method of science" say Hall and Hall. This is simply untrue. The postulate of a purposefully designed universe is the very one which large numbers of scientists down the ages have taken as an encouragement to do science. But unfortunately the word 'design' has been widely misused in this area. When we speak of a purposeful design we don't need to assume a kind of micro-managed design like a clockwork. We might have in mind the kind of 'design' which a playwrite such as William Shakespeare has in setting out a play. A playwrite's design is typically that through their play we may see truthfully the nature of human life and certain realities about personal relationships to which human life has access. Similarly, when we say there is purpose in the ongoing development of the physical world our main aim is to reject nihilism and the like. Instead we embrace our instincts for beauty and justice which together announce, by faith, that the world is not a meaningless display.

Having said that, I agree with much of what the Halls have to say about the value of science. "It has provided humankind with a language which transcends cultural boundaries and connects us in a highly satisfying way to all the observable universe"; I entirely agree. But that does not imply that science is the private property of naturalism, which it is not. The Halls then say, of science, "It has the potential to be used as the basis for a workable and profoundly satisfying system of ethics." I am puzzled by this statement. How will the system be "profoundly satisfying" unless we already have some ethical sense which it stimulates in some way? I will leave this; it would take too long to unpack it here.

In their article Hall and Hall included an example of an unreceptive and ignorant reaction to scientific discoveries in cosmology, coming from a Christian. I have to admit, that is how some Christians react. But in fairness, it is not as though science is always presented to the general public in a fair and correct way. The area of large-scale physical cosmology, in particular, has in recent years often been claimed as a triumph of science over religion. This is illogical because it is like claiming that algebra is a triumph over mathematics. Or it is like claiming that a saw is a triumph over carpentry. The point being that algebra is itself a branch of mathematics, and a saw is the very tool which a skilled carpenter will use. In a similar way, science is the very tool which religion adopts when religion wants to learn about the history of the cosmos, and the patterns in its physical nature.

Summing up

In short, good religion appreciates and engages in science and applies its methods in their proper role. That is what millions of scientifically skilled and knowledgeable religious people know. This is not to argue a logical point from their numbers, but it is to ask that their existence not be denied and that their intelligence and reasonableness not be unjustly denigrated.

Having said that, I would like to admit that “religion” is not defined only by its better qualities, and as a set of human behaviours it covers the whole range from wonderful to terrible. So I am not in the business of any sort of uniform approval for religion. But modern-day humanism has to learn to live up to its values too, and these include the rejection of prejudice, and rejection of the mindset of prejudice. That mindset is one that describes a complex varied thing as a uniform thing, and does not take time to learn about some unfamiliar way of thinking, preferring to make up its own story of what that way of thinking is. For readers who would like a fairer way in to the phenomena of human religion, I could recommend for example, “Living with the Gods“ by Neil MacGregor and “I and Thou” by Martin Buber.

The article by Hall and Hall finishes with a quotation from Steven Weinberg, where he suggests that we might be able to figure out how the universe has proceeded from a very early moment. Weinberg was an extremely gifted physicist and worthy Nobel-prize winner, but his comment is mistaken about the status of our knowledge. What his statement fails to grapple with is the fact that we do not know what the universe is like, at bottom, at *any* time in its development. Not even in the present, never mind the past. Fundamental physics offers a telling illustration of this, in the paradigm shift from classical to quantum physics. The very concepts of a physical body and physical forces have to undergo a profound change as one learns better what things are really like. We can expect further profound changes as our descendants learn more. The characteristically religious outlook is one which is willing to trust that this further learning will not undermine our most precious values, such as the value of courage, honesty, kindness, fairness, mercy and the like.

Finally, I would like to reiterate that the position advocated by Hall and Hall is one which assumes from the outset that it already knows what kind of universe we are a part of: the assumption they identify as “materialist monism”. But how do they know that is right? They do not. I admit that plenty of good science can be done from that starting-point. But good science can also be done from the starting-point of no assumption about what the world will turn out to be in full. Instead one sets out simply with an awareness of what has been found out so far and a willingness to find out more. One is willing to admit that the world is whatever it turns out to be. If in fact Reality can know nothing of us, then so be it; and if Reality can know us by name, then so be it. How can we possibly say anything else?