

Zygon and the Future of Religion-and-Science

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HISTORY AND THE FUTURE OF SCIENCE AND RELIGION

by Hava Tirosh-Samuels

Abstract. Philip Hefner identifies three settings in which to assess the future of science and religion: the academy, the public sphere, and the faith community. This essay argues that the discourse of science and religion could improve its standing within the secular academy in America by shifting the focus from theology to history. In the public sphere, the science-and-religion discourse could play an important role of promoting tolerance and respect toward the religious Other. For a given faith community (for example, Judaism) the discourse of science and religion can ensure future intellectual depth by virtue of study and ongoing interpretation. The essay challenges the suggestion to adopt irony as a desirable posture for science-and-religion discourse.

Keywords: anti-Semitism; Aristotle; conflict model; Darwinism; early modern science and technology; Philip Hefner; irony; Judaism (Reform, Modern Orthodox, Ultra-Orthodox); natural philosophy; religion; science; secularism; Hayden White

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It is an honor to participate in this symposium that celebrates the accomplishments and leadership of Philip Hefner and reflects on the future of the science-and-religion dialogue in general and of *Zygon* in particular. I have encountered Hefner in conferences and board meetings of the Metanexus Institute. In April 2008 I invited him to Arizona State University to take part in our Templeton Research Lecture Series on Constructive Engagement of Science and Religion (2006–2009). Our project explored the challenges of transhumanism,¹ and Hefner addressed the interdisciplinary faculty seminar, the core of the project. Reflecting on his work (Hefner 1988; 2003), he enabled us all to engage the theological significance of technology, which is no mean feat in a secular university where theological reflections are discouraged and even frowned upon.

Unlike some Christian theologians such as Brent Waters (2006) who are critical of biotechnology and its negative impact on contemporary society, Hefner articulates a theological justification for technology because it manifests God-given, created creativity. As “created co-creator” (see Görman 2005), “*Homo sapiens* has emerged as a creature of biology and culture, and its survival depends on the symbiosis of biology and culture” (Hefner 2009, 168). Because the technological impulse is rooted in the created nature of humans, human technological achievements cannot conflict with human nature; rather, they express that nature. Regarding transhumanism, Hefner makes an important distinction between the fantastic and rather dubious claims that converging technologies will bring about the emergence of another species beyond *Homo sapiens* as we know it, on the one hand, and the more ubiquitous, ambiguous, and urgent forms of transhumanism that affect our daily life, on the other hand. The latter is based on the belief that “it is natural and good to enhance human mental and physical abilities, and ameliorate undesirable aspects of the human condition” as well as the claim that “we need not accept as our destiny the human nature . . . with which we grew in our mother’s womb” (Hefner 2009, 166). Although Hefner approaches this form of transhumanism with ambivalence, he does not view it negatively. In fact, he takes a very positive attitude toward enhancement technologies because he has benefited from them directly. Born with a genetic birth defect, spina bifida, which in earlier generations would have guaranteed him a life of great suffering and premature death, Hefner has been able to lead a very active life well into his seventies as a result of medical advances, thus providing support for the optimistic connection between medical enhancements and posthumanity (Gordijn and Chadwick 2008).

Hefner’s interpretation of human creativity and his positive attitude toward biotechnology have enabled me to reconsider my own resistance to the transhumanist agenda and articulate a more nuanced position. I trust that all of us who celebrate his accomplishments will continue to emulate

his clarity of thought, tenacity of vision, and dedication to the interaction of science and religion as we reflect on the future of *Zygon*. As an intellectual historian who specializes in the Jewish tradition and its interaction with Islam and Christianity and with Western philosophy, I engage Hefner's address from the perspective of the discipline of history.

SCIENCE AND RELIGION IN THE CONTEXT OF THE ACADEMY

Any discussion of science and religion must begin with the ambiguity of the word *science*. From antiquity to the eighteenth century the word connoted knowledge of causes and usually meant knowledge that was known for certain and organized propositionally. This understanding of science can be traced to Aristotle, who defined science as "a body of knowledge about some subject, organized into a system of proofs of demonstration" (Smith 1995, 47; Byrne 1997, 192–211). Aristotle provided the precise and technical meaning of *episteme* (*scientia* in Latin) in the opening of the *Posterior Analytics*, saying that *episteme* is knowledge "when we know the cause on which the fact depends as the cause of the fact, and that the fact *could not be otherwise*" (71^b10 ff.). Thus to have scientific knowledge is "to have explanatory understanding; not merely to 'know' a fact incidentally, to be able to assent to something which is true, but to know why it is a fact" (Hankinson 1995, 110). Produced by demonstration (*apodeixis*), unqualified scientific knowledge is itself a form of syllogism. Such knowledge is necessary, eternal, universal, and irrefutable. For Aristotle, when we know *why* things are the sorts of things they are, we know the fundamental structure of the universe and the causal relationship of its components to one another.

This meaning of science is quite different from the modern use of the term, in which it denotes systematic, empirical observations of the natural world that lead to generalizations about the laws of nature. Despite the change in meaning, I do believe that to understand the interaction between science and religion today we must not limit our inquiry to the modern period but must go back to the ancient past and trace the development of human approaches to the natural world. The task of the history of science is to document the interaction of humans with their natural environment and their aspiration to understand it, but this story cannot be told without religion. Indeed, human history in both West and East has never been a story of a dichotomy between science and religion but a story of a complex interplay between the two (Tirosch-Samuelson 2005).

In the Middle Ages, Jewish, Christian, and Muslim thinkers were keenly aware of the tension between divinely revealed knowledge and humanly discovered knowledge, but they were convinced that the two bodies of knowledge can cohere if both are properly interpreted (Grant 1986; Brague 2003). In the medieval schema of the sciences, which followed the Aristo-

telian paradigm, the study of the natural world was part of natural philosophy that culminated in metaphysics, or First Philosophy, whose proper object was knowledge of God. The discourse about God, then, was very much part of the work of the natural philosopher, and only the one who knew about the natural world could talk intelligently and knowingly about God.

This medieval insight is still valid, even though science has changed greatly since the Middle Ages. The study of nature is meaningful because it is set within a religious framework, and, conversely, the human religious quest is truthful because it is grounded in knowledge about the natural world created by God. The medieval philosopher was a religious believer and a scientist as much as he was an interpreter of scripture and a systematic theologian. The ability to integrate theology and philosophy, science and religion, reason and revelation made premodern life intellectually rich and spiritually complex, and it is this richness that the science-and-religion dialogue attempts to capture as a critique of contemporary secularist and scientist culture that has suffered so deeply from the deliberate dissociation of science and religion (Brooke 1991; Moore 1992).

In the early modern period the interplay between science and religion was especially prominent in the areas that modern science has refused to recognize as science proper (Smith 2009). Modern science has marginalized the supposedly occult inquiries (inquiries into the hidden property of things) such as alchemy, astrology, and magic, but historians of science of the last three decades have shown that these subjects have been at the center of elite and vernacular understandings of the natural world in the early modern period. Take alchemy, for example. Historians of science have recognized that alchemy and later chemistry involved hands-on sensory examination of natural materials because alchemists often have examined by tasting, smelling, listening, and touching. Alchemy as a productive art was an esoteric investigation of nature and the place of humans in the cosmos as much as it gave insight into the vexing relationship of matter to spirit. Alchemy also was practiced as religious allegory, relevant to the processes of spiritual transformation, even those of creation and resurrection. Alchemy was a body of knowledge that touched on almost every part of human life and agency, from organic processes of the human body to the growth of plants and metals to the production of all the arts necessary for human beings in the earthly world.

When historians of science include alchemy, astrology, and natural magic in their investigations, they do not enhance superstition and ignorance but instead illustrate how science was not just an intellectual activity but also a material and technological activity that cut across the artificial boundary between the history of science and the history of technology. In the early modern period there was no separation between natural science, engineering, and medicine, which we take for granted today. Rather, these were

diverse modes of interacting with nature that coexisted and cross-fertilized each other in the development of empiricism and especially the experimental method. Here artisans and practitioners of practical mathematics—surveyors, astrologers, gunners, navigators, and teachers of calculation and more generally the culture of everyday mathematics—functioned in the commercial towns of Italy and the German free imperial cities. Historians of science also are more aware today of the development of scientific instruments—portable sundials, compasses, astrolabes, telescopes, and microscopes—and can explain how instrument makers and instruments functioned as intermediaries between mathematicians, natural philosophers, astronomers, artisans, princes, and merchants. Out of this matrix emerged new theories about nature, new pedagogical systems, and diverse epistemologies. The new knowledge about nature eventually became central to the new philosophy that we associate with modern science.

Understanding the historical processes that led to the rise of modern science and the continuity between modern science and science in the early modern period is crucial to the mission of *Zygon* that seeks to eliminate the mistaken perception that science and religion are mutually exclusive (Grant 1996; Lindberg and Westman 1990; Cohen 1994; Osler 2000; Henry [1997] 2002). Historically speaking, the belief that science and religion are inherently in conflict is of very recent vintage. The conflict model goes back to the debate about Charles Darwin in the 1860s and represents the growing secularization of the West during the nineteenth century (Moore 1979; Numbers 1998). The conflict model was articulated in John William Draper's *History of the Conflict between Religion and Science* (1874) that presented Christianity, and especially Roman Catholicism, as the arch-enemy of science. In the same vein, the president of Cornell University, Andrew Dickson White, composed *Warfare of Science* (1876) and *History of the Warfare of Science and Theology in Christendom* (1896) as part of his attempt to build an institution of higher learning free from the constraints of religious creed (Livingstone 2003).

However, even in the nineteenth century there were other voices alongside the warfare model that did not see religion and science as necessarily antagonistic. In fact, many historians during the nineteenth century presented religion as *fostering* science. Thus, Protestant historians claimed that the Reformation stimulated scientific activity, whereas Catholic historians praised the Roman Catholic Church's support for science. Theologians in the nineteenth century also did not share the conflict model. Following William Paley's popular work of natural theology, mainline Anglo-American Protestants regularly invoked science in support of their religious beliefs and sought to reconcile science with religion.

Unfortunately, the conflict model became prominent in the first half of the twentieth century, in part because Protestant theologians such as Karl Barth, Paul Tillich, and Reinhold Niebuhr moved away from the legacy of

Paley and virtually ignored science in their theological writings. More important, as evangelical, fundamentalist, and Pentecostal churches displaced mainline churches as the center of gravity within American Protestantism, practitioners in these churches felt threatened by science, particularly Darwinism, and some of them, as we know, stirred mass movements against the theory of evolution. In the 1920s William Jennings Bryan's campaign resulted in legal limits on the teaching of evolution in some public schools, resulting in the trial of John Scopes in 1925 for violating such a law in Tennessee (Larson 2003). In the 1960s, Baptist engineering professor Henry Morris helped to revive a literal reading of the Genesis account of creation among conservative Protestants, demanding teaching of "creation science" alongside Darwinism in biology classes (Numbers 1992; Witham 2002). In the 1990s Presbyterian law professor Phillip Johnson revived interest in pre-Darwinian concepts of intelligent design in nature and insisted that public schools incorporate this approach in their science curriculum. The Intelligent Design movement, led by the Discovery Institute in Seattle, has further perpetuated the notion that religion and science are inherently in conflict, a perception shared today by religious practitioners and secularists alike (Numbers 2002; Dembsky 1998a, b).

History, especially intellectual history, which includes the history of science, can be useful in diffusing some of these entrenched debates. Within the context of intellectual history one studies all forms of human self-expression and all genres of intellectual productivity. Intellectual history enables us to incorporate the history of science and the history of religions in the training of the practitioner of science and religion; it provides the appropriate temporal perspective from which to assess change over time; it enables us to remain nonjudgmental toward the traditions we study or the schools of thought we try to understand while studying them on their own terms. Intellectual history is inherently interdisciplinary, capturing diverse methodologies of various intellectual pursuits. As such, it is comprehensive, inclusive, and inherently diverse; it gives voice to all scientific disciplines as well as to religious traditions. It is this respect for diversity and inherent tolerance that we most need when we consider science-and-religion in the public square, the second setting addressed by Hefner.

But before I turn to the public square, I want to reflect on the status of the discourse of science and religion in the academy today.

I would venture to say that even though science-and-religion has its own academic journal (*Zygon*), online publications (such as the *Global Spiral* of the Metanexus Institute), and several academic organizations (including Institute on Religion in an Age of Science, and Center for Advanced Study in Religion and Science), the field is still struggling to establish its academic credentials. The total number of academic appointments in science-and-religion is still very small (perhaps a dozen or so positions throughout the United States), there are very few programs of science-and-religion

in secular institutions, whether public or private, and the number of graduate students trained in this field is still minuscule.

Why is it so difficult to establish the field of science-and-religion as a bona fide academic field? First, the inherent interdisciplinary nature of the field complicates academic training. Universities are very cumbersome institutions whose structure is not amenable to change; conversations that cut across several academic disciplines are hard to administer and require thinking outside the box. Second, although the discipline of Religious Studies has been grudgingly recognized as an academic field since the late 1960s, scientists in the academy do not want to see their scientific arena become "contaminated" with nonscientific conversation. Scientists are themselves invested in the war model between science and religion and have no intention of muddying the water by allow religion to interface with science. Their resistance makes it hard to establish programs or endowed chairs in the field of science-and-religion. Also, the lack of historical consciousness that is so rampant today among natural scientists as well as among analytic philosophers, including philosophers of science, explains the indifference if not outright opposition to science-and-religion precisely because this discourse is rooted in the past models.

I maintain that much of the resistance to the field of science-and-religion will be eliminated if we shift the focus of the discourse from theology to history and if we make intellectual history and history of science our main methodological tools.

The secular academy dictated that discussion of theology and doctrine, even teaching *about* religious doctrine, is inadmissible in the classroom. In the secular academy religion is but a cultural phenomenon. Religious believers may find themselves in uncomfortable situations because for them religion is much more than just culture. The study of religion in the secular academy is filled with dissonance when religious practitioners are confronted with the academic analysis of their tradition and when secular students come to realize that world religions cannot be reduced to superstition, bigotry, and militant fanaticism. I maintain that the discourse of science-and-religion avoids the reduction of religion to culture and facilitates the understanding of religious beliefs, practices, and symbols on their own terms. The discourse of science and religion can inculcate the appropriate sensitivity and intellectual subtlety that are crucial for the well-being of the academy. Science-and-religion dialogue can show why it is impossible to think about culture without taking religion into consideration and why thinking about science is meaningless if one ignores the religious impetus of many scientific inquiries, for example, the quest for origins.

SCIENCE AND RELIGION IN THE PUBLIC SQUARE

The perception that science and religion are necessarily in conflict with each other is deeply entrenched in the public square, as demonstrated by the debates about evolution versus creation and/or Intelligent Design, stem-cell research, and genetic engineering and enhancement (Holland, Lebacqz, and Zoloth 2001; Kristol and Cohen 2002). Each of the feuding camps—the religionists and the secularists—speaks out as victim of intolerance and persecution by the opposing camp. Secularists, who promote science as the savior of humanity, see themselves persecuted by intolerant religious fundamentalists and evangelicals who hamper scientific advancements, undermining the march of humanity toward universal enlightenment. Religious believers feel victimized and persecuted by a scientific establishment that wishes to crush emotional, moral, and spiritual commitment because of its ardent commitment to physicalism.

Zygon and more generally the dialogue of science and religion have a central role to play in creating a different ethos, ambience, and style for our public discourse. Instead of shrill polemics and inflammatory attacks, we need to cultivate mutual respect and curiosity, a desire to understand without judgment, tolerance of diversity and acceptance of otherness, interest in subtlety and nuance, and willingness to sustain ambiguity or tolerate ambivalence. These habits of mind and the virtues that accompany them are fast disappearing from our public square with its insatiable craving for simplistic sound-bites, veneration of celebrities, and instant gratification of desire. The science-and-religion discourse can promote a thoughtful, cautious, deliberate, and subtle conversation that could counter the superficiality of our popular culture. It can teach youngsters how to respect persons whose views are different from their own and how to avoid simplistic and superficial solutions to intractable problems.

The didactic role of science-and-religion dialogue is especially important in our current global environment in which religious traditions such as Christianity, Islam, Hinduism, and Buddhism have been pitted against each other. Globalization has brought diverse and remote societies into contact with each other, but such contact need not be one of inevitable clash and war for mutual extermination (Huntington 1996). This is not the first time in human history in which diverse civilizations encountered each other, and the encounter was not merely one of holy war and conflict. The past also offers us numerous examples of shared knowledge, scholarly collaboration, and cultural cross-fertilization. This was particularly evident during the Middle Ages in the transmission of culture and scholarly knowledge between Muslim, Jewish, and Christian scholars. As well as being historically interesting, the study of medieval cultural transmission and collaboration is also politically important because it enables us to gain a richer understanding of the Islamic past and different ways of thinking

about religion and philosophy. In Islam and in Judaism science-and-religion discourse is configured rather differently from that in Christianity because of the role of Law (*halakhab* in Judaism, *sharia* in Islam) in shaping all aspects of life.

The more we Westerners understand the history of Islam on its own terms, the better we will be able to sustain the encounter with Islam, which has become tragically militaristic. Scholars of Islam, be they Muslim or non-Muslim, are particularly important today because they can help remove mistaken beliefs about Islam and make the intellectual richness of Islam available to the public at large. The discourse of science and religion could provide the context for this learning experience that could go in both directions. Obviously this is easier said than done. Not enough scholars are willing and able to play this public role, and the conversation often does not go beyond the early stages of familiarizing oneself with the basics. In principle, however, this deep learning about the religious Other holds some sliver of hope for us all in the global village. Without learning about the religious Other, without mutual respect for the religious Other, we all are doomed to destruction. The discourse of science and religion promotes a reflective mindset necessary for a thriving democracy.

RELIGIOUS COMMUNITIES

The third audience for the science-and-religion dialogue is the religious community. Speaking as a Jewish scholar and a scholar of Judaism, I cannot comment on the success of the Christian community to “reformulate religion for an age of science” as Hefner has put it. I can state only that Judaism has not responded to this challenge to the extent that it should. For secular Jews, science-and-religion dialogue is not an important issue whether one frames it as a conflict or as an intersection. Reform Judaism, the most liberal of the Jewish denominations, also does not consider science-and-religion an important theme because it defines Judaism in rationalist terms and welcomes science as an integral aspect of modernity. To be modern, Jews must be open to scientific advancements, and Judaism does not pose any impediment to science (Plaut 1962). Conservative and Modern Orthodox Jews are more interested in the discourse on science and religion, and Modern Orthodox thinkers have been at the forefront of original Jewish thinking. Precisely because they believe that Jewish Law encompasses all aspects of life, they have to concern themselves with the legal implications of scientific developments, especially those that pertain to human beings. Thus, Orthodox thinkers have been very proactive in regard to biotechnology and, in some cases, for example stem-cell research and cloning, have articulated views that are quite surprising (Bleich 1977–1989). Not surprisingly, it is Modern Orthodox thinkers who are most interested in the medieval legacy of Maimonides and Gersonides and un-

derstand that the contemporary wrestling with these issues is but an extension of the medieval conversation, albeit with a different science.

Yet both Conservative Judaism and Modern Orthodoxy are numerically on the decline, struggling with the rise of more fundamentalist Ultra-Orthodoxy on the right and of secularism and cultural ethnicity on the left. It is very difficult to get Jews to become excited about the discourse of science and religion that requires them to understand the historical roots of the conversation within Judaism, to approach Judaism as a religion, and to take science seriously (Samuelson 1994; 2003; 2008). It is unfortunate that contemporary Jews accept the bifurcation of science and religion. Secular Jews reject the religious tradition as irrelevant to them and endorse science as the only source of truth and moral guidance; science functions for them as a religion, and they are either uninterested in or uninformed about their own rich Jewish tradition. Ultra-Orthodox Jews dismiss science as irrelevant to their comprehensive religious life, even though they make ample use of technology, the by-product of science. In these circles one might have to know something about science in order to pass compulsory exams imposed by the state, but one is not supposed to internalize the knowledge of science (Selya 2006). Either position is untenable historically and intellectually.

Understanding the relationship between Judaism and science is especially necessary today because, to my chagrin, many Jews are ignorant of their own rich historical past, especially the medieval past in which the interplay between science and religion was the norm especially in communities of the Judeo-Muslim orbit. Jews today are not only unfamiliar with the degree to which science informed medieval Jewish culture, they also adopt a literalism about scripture that is utterly foreign to rabbinic Judaism, which was nonliteralist in its stance toward scripture and remarkably curious about the natural world, especially the place of humans in the natural world (Aviezer 2001; Cherry 2006). It is ironic that Ultra-Orthodox strands of contemporary Judaism have adopted the literalist stance of certain Protestant denominations, the very culture they reject because its modernism threatens their own traditionalist way of life.

To address this situation the Judaism, Science, and Medicine Group (JSMG) was founded in 2008.² We hope it will create a new interdisciplinary context to advance science-and-religion dialogue among Jews. The group includes scientists, academics, rabbis, and educators who are committed to the interplay of Judaism and science and who refuse to accept the conflict model as normative. It is too soon to determine whether this initiative will amount to more than a conversation among like-minded intellectuals. *Zygon* could be very useful for us by publishing papers delivered in the organization and by encouraging Jewish and Muslim scholars to join a conversation that has been until now mainly Christocentric and Eurocentric.

HISTORY AND IRONY

I now come to the final point of Hefner's deep reflection: the role of irony in the discourse of science and religion. According to Hefner, irony captures the "juxtaposition of incommensurate realities" characteristic of the discourse of science and religion. He suggests that irony is necessary if one is to yoke together areas of human experience that seem so remote and unrelated. Irony and "the sense of humor that accompanies it," as he puts it, enable us to avoid the pitfall between two unacceptable viewpoints: (1) that life has no meaning and does not require the quest of meaning and (2) that our scientific search cannot include a search for meaning. I agree that this is a choice between two nonviable alternatives, but I am not sure that I endorse irony as the posture for the discourse.

A word about the use of irony in historical narratives is in order. Hayden White is probably the most important theorist who showed that history is an act of imposing a narrative or emplotment of a particular kind on the past (White 1973; 1978; 1987). This means that our knowledge of the past is derived through an essentially poetic act. He characterizes the deep structures of the historical imagination as conforming to the operation of four major figures of speech: metaphor, metonymy, synecdoche, and irony. According to White, irony is a mode of historical writing in which characters and events are treated in such a way as to show inconsistencies between appearance and reality. Historians thus create the story in a poetic act of literary imagination; behaving like novelists, they carve out the story that they wish to tell from the tangle of other possible narratives in any given situation. Historical events then are not in themselves tragic, comic, romantic, or ironic; we only construct them in a certain manner.

Hefner's choice of irony as a correct mode of presentation for the discourse of science and religion fits White's insight that there is a difference between history as the past (namely, everything that happened) and history as a narrative about the past. The latter is not a mirror image of the former, and I agree that it is important to understand the difference between them. What is problematic is White's presenting history in opposition to science, as he reveals a rather anachronistic and absolutistic view of science. Recent writings by cultural historians demonstrate that modern science too is dependent on imaginative thought and is rooted in metanarratives of human emancipation and dominance of the natural world (Korhonen 2006). White overlooked the role of narrative in the practice of science, and therefore his understanding of irony as based on inconsistencies between appearance and reality is not convincing.

Leaving White aside, I wish to remind us that the ironic posture comes with a price, a price familiar to many Jewish intellectuals. Irony and the humor that accompanies it are adopted by those who do not feel at home but are aware that they do not belong to the society in which they happen

to live. Irony and humor enable us to deflect difficulty, pain, and grief, presumably by laughing at ourselves in disbelief and skepticism, as Sarah did when she heard she was to bear a child (Genesis 18:12–15). But humor is not only a strategy to deal with pain and grief. It also can be vicious and biting, as any good comedian knows. The humor of Danish cartoonist Kurt Westergaard's depiction of Muhammad in September 2005 brought about much interreligious strife. Humorous cartoons in the nineteenth century perpetuated negative images of Jews that disseminated and promoted anti-Semitism. One might say, Lighten up and do not take cartoons as cultural indicators, but my sensitivity to the historical past tells me not to be naive about the destructive power of humor and its ability not to yoke cultures or human inquiries to each other but rather to pull them apart.

Is ironic sense of humor the best posture for *Zygon* to adopt in order to address the challenges of the twenty-first century? I am not sure. In the global village in which religious traditions and schools of thought necessarily come into contact with each other, we would do well to cultivate not humor and irony but active listening, emotional intelligence, and humility. We need to learn how to listen attentively to those who hold different views from our own, how to respect them and allow them to coexist with us while acknowledging that no one has a monopoly on the truth. All we have and all we could reasonably cultivate is a keen desire to understand the world in which we live, curiosity about those who differ from us, and a commitment to differentiated equality. *Zygon* could perpetuate these values through the cultivation of historical consciousness, the study of the interaction between civilizations, traditions, and schools of thought, and the recognition that science without religion is inadequate, as is religion without science. I very much hope that Hefner's courageous, dedicated, and caring leadership, as well as his good sense of humor, will lead *Zygon* and the discourse of science and religion to a new creative future based on mutual respect, tolerance, and dignity.

NOTES

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1. I am the PI of the generous grant "Facing the Challenges of Transhumanism: Religion, Science, and Technology" that sponsored public lectures by Templeton Fellows, monthly faculty seminars, annual workshops with guest speakers, and consultations with faculty and students. For more information about the project consult our Web site, www.asu.edu/transhumanism. During the academic year 2009–2010 members of the faculty seminar are presenting papers that will be published in a volume titled *Building a Better Human? Focusing the Debate on Transhumanism*, edited by Hava Tirosh-Samuelson and Kenneth Mossman.

2. The JSMG is administered and run by the Center of Jewish Studies at Arizona State University, of which I am the Director. For more information consult www.jewishstudies.asu.edu.

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