Intersect, Vol 11, No 2 (2018)

Hidden Realities and the Language of the Prophets of Science: In Search of the Mythos of Modernity

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Introduction

The following essay takes aim at problematizing the social dimension, distribution and consequences of scientific knowledge. To accomplish this goal, I will compare the mythological lore present in the Amazon Basin with the scientific worldview of the industrialized West. Such juxtaposition is focused on western science, where references to another knowledge system are used to enrich the overall argument and as a catalyst of effective self-reflection on modern society. However, in the course of this essay, I do not intend to dismiss the heterogeneity of both Amazonian and Western societies. Both speculative and provocative in tone, this essay is an experimental application of theorizing through lateralization — models developed to describe one mode of knowing are applied to an alternate mode. The specific examples will underscore the contexts and mechanisms of knowledge dissemination rather than its content.

Cosmology of the Amazonian societies is presented based on my familiarity with this specific geographical region. I begin my analysis by discussing the role of metaphor in scientific discourse. Subsequently, I will describe variations in lay and expert interpretations of knowledge. The essay will be concluded with an overview of the literature interpreting science as mythology.

My analysis stems from a history of expansion dating back to the 17th century. Colonial aspirations at this time intensified across Western Europe. More significant, however, a decree of King Charles II established the Royal Society, a fellowship of learned scholars that exists to this day. For some, the writings of Francis Bacon, especially the utopian *New Atlantis,* influenced both colonial and scientific efforts of the English aristocracy (and beyond). It is easy to forget the founding fathers of western science, and easier yet to judge them through the lens of modernity.

The Baconian 'Solomon's House' is characterized using biblical diction and reflects a vision of the "ideal university" as conveyed in the *New Atlantis.* This 'House' might be perceived as a symbol of an early scientific revolution, but the question prevails: How could such an

institution manifest itself today? Is questioning the separation between science and faith heretical in nature? To the latter, I argue that the unspecified notion of 'belief' will only do us harm in evaluating appropriate evidence. As far as the first question goes, there could arguably be many manifestations of quasi-religious 'Solomon Houses'. We might even call them 'research institutions'. Nevertheless, we might be inclined to say that reason and education are shielded from superstition. The seal of the oldest university in America simply reads "Veritas" (Truth), rather than "Veritas Pro Christo et Ecclesia" (Truth for Christ and Church) as in the past. Today, we are faced with an expansion of technology and scientific ideologies, where scientists are largely writing the mythology of our times. Science has risen to the level of a guiding force as the human species attempts to orient itself in the universe.

The first and second waves of science studies dealt extensively with problems of objectivity, social dynamics, and the politics of science. Following propositions by H. Collins and the 'third wave' of science studies, I call for an evaluation of scientific authorities in modern popular culture. In previous decades, we have learned a great deal about the internal structure of contemporary 'Solomon Houses'. However, there are still gaps to be filled in our understanding of the social consequences of scientific knowledge. I inquire about the language, expertise, and implications of scientific knowledge; and by purposefully over-emphasizing similarities with belief-based institutions, I attempt to make my analysis more revealing. By describing science as a major contributor to the mythological lore of the West, I seek to raise questions related to contemporary identity. I highlight the functionality, not the content, of knowledge systems and I focus on their cognitive dimensions.

One of the main arguments raised here is that in part, science derives its high epistemic value by relying on the formation of a belief in it. In his 1982 book, Israel Scheffler responds to criticism of scientific objectivity by calling for "responsibility in belief" (p. 4), and he argues that science itself provides excellent guiding methods for such responsibility. Truths about the natural world can be derived from the application of logic to relevant empirical facts. Thus, laws and hypotheses are formulated in the publicly open enterprise of science (p. 8). Still, any theoretical statements about the nature of things must be mediated through symbols. According to MacCormac (1976), in the formulation of theories, scientists must rely on the use of metaphorical language in order to make a theory both intelligible and suggestive. Following the conclusions of Lakoff and Johnson (1980), in this essay, metaphors will be seen not only as elements of linguistic expression, but also as integral 'filters' that impact our cognition and behavior. By juxtaposing mythological and scientific metaphors, I aim at broadening our understanding of the functionality of these linguistic expressions.

By no means is my purpose to critique the 'scientific method' or more specific methodologies of knowledge production. There is a strong

distinction between the process of producing information within the scientific community and disseminating information to extra-scientific audiences. This essay concerns itself mostly with the latter. There are a multitude of distinct ways of spreading information, and there are also many modalities for information evaluation. A gradient of expertise in every domain of life produces various levels of rigor with regards to the evaluation of information. With its highest expression as 'taking things for granted', reliance on expert opinions is the primary form of belief to be invoked. As Quine (1970) writes, "in the case of what ourselves are in poor position to verify, continuing acceptance of it by those in a better position might be our touchstone". I will discuss this point further by focusing on limitations of perception and subsequently, perceptual extensions that science provides. Some surprising similarities with the Amazonian epistemologies will be pointed out.

The Symbolism

In the training process, scientists learn to decode discipline-specific vocabularies, with their deliberate functionality and a predetermined relationship. In a simple argument, when 'evidence' *a* relates to conclusion *b*, there are multiple linguistic elements that intrinsically shape this knowledge system. Here, metaphor is only one of the components in the language 'game'. If the object of science is to describe a phenomenon 'as it is,' what is the role of inescapable symbolism associated with it? (Quine, 1957, p. 4). In his attempt to answer this question, T. L. Brown concludes that the mental (and linguistic) capacities of scientists are linked to the senses or their instrumental extension (2008, p. 195). Brown asserts that there is no "purely abstract" world; science is constrained by culturally specific forms of expression.

"What scientists actually do and how they go about doing it is mysterious," writes Brown (2003). Brown first and foremost problematizes the social dimension of scientific endeavors, the scientists' means of communication, and the technological and theoretical implications for the broader audience. Importantly, Brown concludes that modes of reasoning and communicating in science are not fundamentally different from other intellectual domains, the point of which will be revisited later in this paper. Science is based on observation and the formulation of truths about the world, but in every instance, the 'truth' is mediated through a representational form, which is often metaphorical in nature. According to Brown, when we consider a model of an atom, "our experimental attempts to see the atom as it is all involve approaches that relate observables to the atom via one or more models. Thus, the images they yield are necessarily metaphorical." As stated before, these models have been instrumental in the progression and development of science, as they enabled tangible discoveries and new ways of understanding.

MacCormac (1976) explores scientific and religious language in the context of the Wittgensteinian notion of 'family resemblance'. In the

process of formulating theories, scientists rely on the use of metaphorical language to make a theory both intelligible and suggestive. On the most basic level, both religious thinkers and scientists employ metaphors in order to describe the world beyond ordinary perception. MacCormac claims that myths arise when "men believe theories founded upon root-metaphors to be literally true". Whereas a researcher might construct a representational formulation in order to further an investigation, a non-expert recipient might not perceive this distinction. Let us consider the concept of 'Dark Matter.' In astrophysics, this term refers to the approximately 27% of unidentifiable matter in the universe that does not interact with electromagnetic radiation. Although Dark Matter has not been directly observed, its existence is predicated on the result of theoretical prediction and calculations. Thus, the metaphor has a technical implication and an important relation to the Standard Model of the Universe. In popular culture, 'Dark Matter' has a life of its own that is often far removed from its mathematical model, and the search for it has occupied the minds of many. Its 'mysteriousness' captivates the imagination and has become a topic of fascination. It has been suggested, by popular science authors, for example, that entire universes are hidden in this 'Dark Matter.' The commercial film industry has also exploited 'Dark Matter.' imposing on it a variety of meanings.

One of the issues raised thus far is the role of metaphor in the progression of knowledge. A critique of the Metaphor Theory of Innovation (MTI) by Knorr-Cetina (1981) suggests that only a social (or ethnographic) context can allow for a realistic account of metaphor in science. Knorr-Cetina invokes an image of two scientists sharing lunch and discussing a protein sample, which seems to resemble sand to one of them (p. 49). Knorr-Cetina's critique stems from a dissatisfaction with a lack of attention to such 'mundane' activities of scientists, activities which often yield profound insights. Ethnographic fieldwork suggests a more nuanced picture of the work of innovation.

Firstly, without a social context, the theory of innovation is obscured of important elements. The questions of "who," "what," and "when" are essential if we are to demystify scientific endeavors, and they ought to be included in the MTI. Research is a multileveled enterprise with many individuals involved, so the origins of a given metaphor are often blurred. Concepts arise in the minds of single individuals, as well as larger scientific bodies.

Secondly, innovation itself is a relevant concept. We are biased in focusing on constructive work, ignoring failure and deconstructions of theories and paradigms. Knorr-Cetina states that any theory of innovation must be grounded in the processes of production and reproduction of research. The question of how exactly concepts are turned into 'innovations' can be illuminated through the application of historical and ethnographic perspectives. Throughout this paper, the question of referenced population comes to the surface. Metaphors play a role in the

transmission of knowledge in scientific, non-expert, lay and religious communities. Authors like Latour, Bloor, Fuller, and Knorr-Cetina herself represent a generation of ethnographers dedicated to working closely with a given scientific community. For the purpose of this essay, I will not engage with this broader literature, yet the insights of aforementioned authors helped in formulating the current argument.

In the following pages, I will explore an empirical study of the use of metaphors among expert and non-expert audiences. Subsequently, I will analyze metaphor's role in a mythological context of the western Amazon. As with the ethnographies of science, I will reference only a few examples from the rich body of work on Lowland South America. My goal is to consider how, on a popular level, the language of science finds itself in a matrix of contemporary cosmology in technologically advanced societies.

Knudsen (2003) shows that one of the principal effects of the use of scientific metaphors in lay literature is the loss of their technical definition. Since studies of metaphors are hugely focused on specialist applications, it is important to pay attention to the shift in meaning when translated to non-expert circles. Knudsen applies Boyd's theory of metaphor in her analysis of writings on genetic code in *Scientific American* (popular magazine) and *Science* (expert's magazine). In contrast to Boyd's distinction between theory-constructive and pedagogical metaphors, the study finds that the same metaphor can play both functions. Although the same expressions may belong to two different categories, the context in which they appear varies from popular to expert literature. In the popular publications, metaphors are considered 'open' or paraphrasable. They appear much more frequently and are stripped of their theory-constructive aspect. Knudsen uses Myers' categorization of text — who discriminates between 'narratives of science' and 'narratives of nature '(1990) — to show how metaphors lose their conceptual status and are instead used for explanatory purposes, only to become pedagogical metaphors belonging to the 'narratives of nature'.

I argue that, as with Dark Matter, genetic code is a concept that has a huge impact on popular culture. By becoming a part of the 'narrative of nature', genetic code is a metaphor by "which we live" and think. Metaphors like that carry certain explanatory power that allows individuals to situate themselves in a cosmological order. There are striking similarities here with how certain theorists perceive the role of metaphors among the indigenous Amazonians. P. Roe's *Cosmic Zygote* (1982) is based on a theoretical "model [which] utilizes certain figures of speech, such as metaphor, simile, and kenning, to unite the disparate characteristics of human and nonhuman animals to generate a comprehensive worldview." Based on his fieldwork among the Shipibo-Conibo people, Roe puts forth his model in order to tap into trans-cultural trends in the symbolic expression of the Amazonian people. The human psyche is in need of systematic forms of representation, which enable a conceptualization of the inner and outer reality, whether one occupies the

banks of a rainforest river or a flat in an industrial city. In different knowledge systems, laws of induction, common sense, evidence justification, and epistemological techniques vary, but they are always there, whether implicitly or explicitly.

It is also worthwhile to contemplate the imposition of Cartesian logic onto native consciousness. The rigorous methodological tools of the structuralist movement produced phrases like that of Yelman: "instead of the *p* and *q* of mathematical thinking, we shall have Jaguars and Wild Pigs related to each other in formal logic" (1967, p. 71). According to one of the foremost proponents of structuralism, Levi-Strauss, a formal division between mythological and scientific explanations of the world happened hugely in 18th century Europe (1995, p. 6). Levi-Strauss criticizes the distinction between 'savage' and 'civilized' minds and writes that, "moved by the desire to understand the world, native people used intellectual means similar to those of philosophers or scientists" (p. 16). Although few scholars fully embrace Levi-Strauss' methodology today, he unquestionably contributed to our understanding of human expression and behavior, especially of the people of South America.

Although cautious in my rhetoric, I take up Yelman's satirical proposition, yet in a reverse formula, by looking at scientific symbols through the prism of mythological lore and theoretical models developed to understand Amazonian myths. On one hand, I follow this logic in order to question religious-like belief in science, and on the other hand to ask why metaphors are so instrumental in the progression and reproduction of knowledge. Roe paraphrases Leatherdale in stating that "Language and thought grow together and the principle of growth is metaphor" (p. 13). The MTI argues that once a metaphor is established, it is functional in the advancement of a given theory. According to Roe, what distinguishes science from mythology is the lack of feedback from empirical observations and attempts to confirm a given preposition in the latter. I will problematize the possibilities for a lay recipient of knowledge to disconfirm experts' claims by addressing a division between distinct epistemologies (those of producers and recipients of knowledge), in both the technological West and the Amazon.

Experts and their Audiences

Each thought system develops a unique set of justification criteria. The first generation of modern philosophy of science was concerned with justifying scientific 'justification.' Over two centuries later, the problem of justification of induction raised by David Hume continues to cast a shadow on the scientific enterprise. Even if we assume that scientific induction is the most reliable method of arriving at truth, such truths can often be taken at face value. Belief is an inescapable modality of the mind. In the introduction, I referred to Quine and Schaffler to bring attention to the "responsibility of beliefs". Such responsibility is to be understood on the wider horizon of lay attitudes towards expert knowledge. How are we

to orient ourselves in the ocean of theories formulated by those equipped with extended perceptual modalities? 'In the scientist we trust,' one might say.

Furthermore, we not only trust that scientists are in a privileged position to determine 'objective' truths, but also to influence decision-making on both local and global scales. This point should not be confused with a critique of the scientific method. It is purely an inquiry into processes influencing popular ontologies. Collins and Evans (2002) proposed the third wave of science studies—Studies of Expertise and Experience (SEE). The purpose of SEE is to address the Problem of Extension: should the technical decision-making in the public domain be democratic or based on the best expert opinion? (p. 235). The authors agree that the sociology of scientific knowledge has established that scientists do not have special access to the truth, thus arises the question of why their opinion should be valued and prioritized. My argument is that the reason why scientific expertise is valued is the quasi-religious status that science has gained in contemporary popular culture.

The technology on which our everyday existence is based relies on knowledge that a very small percentage of the population comprehends. To take it a step further, the process in which both technology and theoretical knowledge is produced can be obscured from the public eye. The problem is not a deliberate action, although there are instances of it. The first point I would like to raise is the extremely time-consuming process required for one to become an 'expert' — it takes decades to become a contributing author to even a narrow field of academia. Furthermore, an expert in a given field is often equally prone to reliance on the opinions of others when it comes to other disciplines. This, in general, is an important point, but more central to the theme of the essay is the question of how scientific knowledge circulates among lay persons. The interpretation of facts and theories is not a linear enterprise — the variety and freedom of interpretations (so essential to our basic rights) leads to a multitude of varying opinions. Sociology of science has long understood that science is not homogenous, thus the distribution of it involves many outlets. The third wave of science studies focuses on the process of decision- and policy-making. The following paragraph will illustrate some of the issues associated with this process.

Many might object that the 'Solomon House,' with its religious connotations, could exist in the present. Nonetheless, orthodoxies have their place everywhere, even at universities. What can possibly be even more problematic, and what the Baconian structure might symbolize, is an ideologically uniform body whose worldview plays a major role in shaping contemporary society. In its 1985 report, the Royal Society lists seven principal guiding points aimed at improving the public's understanding of science (specifically in Britain). The report seems like a panacea for issues ranging from nutrition to economy and industry. It is a thorough and undoubtedly necessary work, which first and foremost

acknowledges the importance of comprehending the philosophical constituents of Western civilization. Unfortunately, the realities of implementing such a plan are vastly complex. One of the recommendations of the Royal Society is for the creation of more governmental committees involving scientists. Yet, history has shown us that scientists are not lone warriors of objectivity and reason. For example, for decades, many government-sponsored scientific panels advocated for the use and benefits of nuclear plants (in many countries). Even when evidence to the contrary is present, often times there are other forces involved. To reiterate, I ask: which 'science,' which scientists, and whose interpretations did the Royal Society have in mind?

The answer is not straightforward. Risks associated with nuclear power plants have been marginalized, especially in the middle of the 20th century, when the idea of progress and the necessity for an unlimited power source was propagated. On the 17th of October, 1956, Queen Elizabeth opened the first, fully operational nuclear power plant in the world. Sir. Edwin Plowden, chairman of the British Atomic Energy Authority commented on this day, "Nothing that comes after will be able to detract from the importance of this first great step forward." If only his words were true. I argue that, in public discourse, atomic energy has a certain mythical dimension. It has been represented as a triumph of humanity's intellect over the fundamental forces of nature, forces unseen by the naked eye. Mysteriousness creates fascination; displays of power breed awe. This awe-inspiring representation of science is one of the most effective means of generating scientifically-based cosmology of our times.

Countless scientists themselves fueled this mythology through popular science books. "Both physicist and science fiction writers truly are cosmic dancers, *shaping* and *expressing* our vision of reality" (Goswami, 1983, italics added PAGE NUMBER?). Felicity Mellor quotes Goswami in her paper on popular physics books (2003), and I will use Mellor's study to explore how science books addressed to non-specialist audiences shape attitudes and beliefs, as well as investigate how scientists depict themselves in this literary form. The author contextualizes the rise in popular science writings in yet another encouragement of the 1985 Royal Society's report, namely a call for scientists to take responsibility in learning how to communicate their knowledge to the public. Mellor notes that by assuming authority over the mediation of science, researchers decide what counts as valuable exposition of their work. She brings to our attention a "propagandist" rhetoric aimed at increasing public support for science (p. 510). In the center of the argument is 'the boundary work' of demarcating divisions between science and non-science. The inaccessibility of technical knowledge is not a simple issue to resolve, and many writers use references to the science fiction genre to engage the public. Mellor uses *The Physics of Star Trek*, and its author, Lawrence Krauss, to demonstrate how a writer can become a spokesman for a whole discipline, such as physics.

Krauss is both a theoretical physicist from the Arizona State University and a successful scientist-popularizer. He appeared on a popular documentary series *Universe,* received an award from the American Association for the Advancement of Science, and gave his testimony to the U.S. House Science Subcommittee on Space and Aeronautics. The following passage by Krauss (also quoted in Mellor, 2003) adequately encompass the hypothesis of my essay. Krauss writes:

> There is a common theme woven into much of our pop culture and mythology. It is this: that the world of our experience is a carefully concealed fiction, contrived to make us believe that things are what they are not. Underneath a mundane exterior, the protagonists of this world change their identity at will (...) I am referring to the Quantum Universe. This is the *real* final frontier, which must be exploited if we are to one day comprehend the beginning and the end of time and the objective reality of the universe of our experience." (Krauss, 1997, p 155-156)

Goswami supports this notion and approaches the boundary between religion and science in stating that "there seems to be a convergence of the thinking of mystics and physicists" in asserting the "underlying reality" beyond the material one (Goswami, 1983, p. 264). It should be noted that physics might be the special case of a science that takes the implication of its claims far beyond other disciplines in asserting its 'objective' nature. Mellor argues that popular physics defines the discipline as not only intellectual, but also imaginative and transcendental (p. 525). Still, according to Mellor, popular books augment the division between lay and the expert, reinforcing the notion of the inaccessibility of purely technical knowledge (p. 532).

Although some scholars might go so far as to claim that "the new 'primitive' is the scientifically illiterate" (Edwards, Harvey, & Wade, 2007, p. 9), it seems that the 'esoteric' dimension of science can be found even among those familiar with popular and technical literature. I would like to raise the question of whether the relationship between the 'specialized' and the 'lay' and their forms of understanding and modalities of investigation of reality can be compared in two distinct knowledge systems. This hypothesis is based on the notion of modification of perception (i.e. a scientist, through her methods and apparatus, *sees* the hidden universe). Associated with it is the previously mentioned problem of the possibility of empirical validation of scientific knowledge by those not directly involved in research. On the one hand, the discussion can be contextualized in the use of apparatus among American and Japanese particle physicists (Traweek, 1988, PAGE NUMBER?). Contrasted with this image could be the use of the *Banisteriopsis Caapi* (a liana also called Ayahuasca) brew among healers of Sharanahua people of eastern Peru (Siskind, 1973, PAGE NUMBER?), which is utilized to achieve visionary states essential for the effectiveness of their medical interventions. Extreme as such a juxtaposition might seem, the knowledge produced in

both instances has social consequences that could be comparable. When looked at through the prism of functionality and the lay interpretations of such knowledge, can particle physics have a similar impact on the cultural cosmology as a ritually-induced vision? My aim in asking such a question is not to suggest literal similarities, but to enable the contemplation of what science is from a new vantage point.

Among indigenous societies of the Amazon, mythological understanding is acquired and enriched by conversations with older members of a group, life experiences and situations in which such knowledge is invoked, discussed and applied. It is also acquired during the participation in rituals that recreate elements of cosmological order (P. Gow's 2001 study of Piro myths is a perfect example). Despite different mechanisms, I question whether the process of "embodiment," "assimilation," or "indoctrination" of knowledge can be compared and logically juxtaposed by using the notion of a "cognitive filter" through which members of a given society perceive the world. A basic structure of such a "filter" can be illustrated by a quote from D. Guss' study (1990) of the Yekuana people from Venezuela:

> In a society such as Yekuana's, every event is suffused with meaning. Each action, through its translation into a recognizable symbolic order, is imbued with the same power to reveal the most profound truths concerning the Yekuana conceptualization of the Universe. For the conscious person (...) each instance holds a possibility of illumination, of entrance into another reality as indicated by the structures of this one.

As poetic as this statement might sound, it addresses a fundamental element of knowledge systems. The "illumination" for a Yekuana happens when he or she weaves a basket. This activity opens up a cognitive landscape inaccessible to normal senses. Weaving brings forth a mythical mental dimension through which, among other things, social values are justified. The creation and re-creation of artifacts is essential for cultural survival, group cohesion, and communication.

I would like to argue that scientific knowledge might function in a similar fashion. If we focus on the ability to perceive and conceptualize elements of reality beyond sensual perception, we can see that scientific endeavors and theories rely upon that mechanism. For a scientist, "entrance into another reality as indicated by the structures of this one" (Guss, 1990, PAGE NUMBER?) happens in a lab, during experiments, and while theorizing about empirical data. On a more mundane, although equally important, level, every discussion of, for example, molecular biology between two members of the scientific community (be them experts or non-experts) relies on the "translation into a recognizable symbolic order" (in this case, the language of biology and chemistry) of those aspects of reality that are otherwise inaccessible. Traweek writes that the great accelerators are like medieval cathedrals and calls physicists "Promethean heroes of the search for truth" (1988, p. 2-3). A Sharanahua

shaman, in his training process, learns to express and bring his visions and perceptions into the social world through the esoteric language of songs (Sisskind, 1972, p. 37). Particle physicists "bring news of another world," writes Traweek, "hidden but stable, coherent, and incorruptible. In times of bewildering and threatening change, this gospel (...) has a very deep appeal". Shamans and scientists learn how to manipulate the 'hidden reality' in order to benefit their communities—to heal, wage war, and sustain social identity. Both specialists use perceptual extensions (vastly different, nonetheless) to interact with underlying forces of the universe; spirits and elementary particles are socially justified sources of non-ordinary energy.

Mythos of Science

In 2006 at the Salk Institute in La Jolla, California, a few dozen of some of the most prominent authorities in the physical sciences gathered to discuss the world "Beyond Belief" (as the conference itself was called). Featuring a few nobel laureates, researchers who revolutionized their disciplines, and many spokespersons of science and celebrated authors, the conference encompassed a wide array of captivating topics. Although the goal and the prevalent discourse was a criticism of organized religions, attendees seemed to be less critical of their own attitudes. It was proposed by C. Porco, a senior research scientist at the Space Science Institute in Boulder and the former leader of the Imaging Team for the *Cassini-Huygens* mission, to establish a "Church of Science", with Neil deGrasse Tyson, director of the Hayden Planetarium as its first minister. Porco said: "We should let the success of the religious formula guide us. Let's teach our children from a very young age about the story of the universe and its incredible richness and beauty. It is already so much more glorious and awesome — and even comforting — than anything offered by any scripture or God concept I know". C. Porco, N. deGrasse Tyson, R. Dawkins or S. Weinberg, all of whom presented at "Beyond Belief", could all be considered "ambassadors of science". Despite Carolyn Porco's trivial tone, views like hers reverberate in many circles. All of the aforementioned individuals are very successful authors with a huge impact on popular culture around the world. It was a bit unsatisfying, after watching many hours of the recordings from the conference, to realize that the ideology of scientism was seldom questioned at the Salk Institute

Fascinating in its own right is the use of the word 'religion' by scientists. Heavily based on the structure of Abrahamic traditions, the rhetoric of disavowal for theism in many respects limits the more nuanced understanding of religion presented by social sciences, as pointed out by M. Midgley. In her book "Science as Salvation" (1994), M. Midgley analyzes the efforts to replace 'religion' with science and argues that as a system of thought, science "is not just a useful tool. It is also a pattern that we follow at a deep level in trying to meet our imaginative needs." Thus, "Science as Salvation" is "about those imaginative needs. It is about myth-

making, not just as a private vice, but as a vital human function" writes Midgley. Each society creates its own cosmology, and the more self-reflective and aware we are of the inner structures of our own minds and social institutions, the more successful and prosperous we can be – as individuals, community members, citizens, and as a species. Perhaps it is science that will ultimately serve as an instrument of 'Salvation', but as with any instrument, it can only express our inner life. It is a *cliché* to say that technology can both destroy or save us, but no matter what hopes and beliefs we hold regarding science, the point is that we do hold them. Unexamined ideology has no place in the modern world. I do believe that science has its mythos, perhaps with physics at its apex, and perhaps with god-defying theories of evolutionary biologists, but a mythos nonetheless.

Conclusions

Understanding the complexity of our beliefs is an important task. Technology and science are part of the basic architecture of the Western social structure; not only in its physical aspects, but also in its cognitive dimension. Metaphors shape our language, thoughts, and attitudes. They are cultural artifacts, just as science is. Attention should be given to the way science is communicated and to the consequences of such communication. The efficacy of technology, statistical modelling, and the possibility of making predictions are elements of science, but they are not the only elements. The cosmological narrative, based on scientific theories, reaches deep into the fabric of the modern world. From university lecture halls to movie theatres and from astronomical observatories on isolated mountain tops to public talks, "Prophets of Science" captivate the imagination of millions.

I take responsibility for using religious terms and comparisons, and justify my framework of analysis by referring to the language used by scientists themselves. I sought to step outside the dialectic of science verse religion and its historical baggage. By alluding to mythological concepts and ritual experts of the Amazon, this paper aimed to recontextualize old dialogues. Science is certainly not the only ingredient of the Mythos of Modernity, but it is a significant one. However, one might object that I have assumed the sheer existence of a singular mythos. My response would be that I only wish for more empirical and ethnographic studies of scientific knowledge and other forms of knowing, where multiple versions of mythology might be described. What exactly is modernity? What part of the world classifies as the West? Who should be considered an expert? These are very important questions, but unfortunately beyond the scope of this work. I hope that developments in the scholarship of the proposed third wave of science studies will eliminate the need to use vague generalizations. Stratification and gradients of expertise will continue to affect the distribution of knowledge, and the "responsibility of belief" should remain a key element on both individual and social levels.

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