THE EVOLUTION OF RELIGIOUS MEMES: WHO—OR WHAT—BENEFITS?[1]

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All human groups, it seems, have had religion. There have been groups without agriculture, without clothing, without money, without the wheel, without laws, without writing, but not, it seems, without religion. Ritual burial of our hominid ancestors may even predate spoken language itself, the other striking difference that separates us from all other species.[2] Religion, moreover, does not seem to have been a mere passing phase in human evolution; in even the most technocratic and materialistic corners of contemporary civilization, religion has found niches in which it flourishes.

Why does it exist? The distinguished historian of ancient religion, Walter Burkert joins the impressive ranks of scholars who have addressed the question of the origin of religion, and unlike most of the others, he believes that the perspective of contemporary evolutionary biology can sharpen the questions and illuminate the issues. He is right. Dozens of insights leap from the pages of this fascinating book, arresting observations that cut across the standard banalities. He doesn't provide a single—let alone confirmed—answer to the question of why religion exists, but he opens up the territory, raising many new—and investigatable—questions while organizing a wealth of historical detail for the benefit of future sleuths. Burkert writes with laudable detachment and frequent flashes of tart humor, but his astringency is not always quite up to the task; he occasionally permits lardy bits from the nonscientific traditions to pass without criticism.

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[2] This is not a new idea: when Socrates recounts the creation myth of Prometheus in Plato's *Protagoras*, he says that man "alone among living creatures believed in gods, and set to work to erect altars and images of them. Second, by the art which they possessed, men soon discovered articulate speech" (322a).

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Why does religion exist? Well, why shouldn't it exist? "For one thing, religion is expensive", Burkert notes (142). "Give till it hurts", the bejeweled preacher in the tent exhorts his rapt congregation of poor people, and ever since people have had possessions, they have done just that, pouring their hard-won wine into the ground, burning their most prized livestock or even their children on sacrificial alters, living in shacks and caves while building vast temples and mausoleums in which no one is to live. "Spartans stopped warfare to celebrate their festivals even at crucial moments; Jews decided to die rather than defend themselves on the Sabbath"(7). This lavish and deliberate "squandering" of time and resources is the hallmark of religion. We don't automatically attribute religious significance to arrowheads or potshards—they are the remains of manifestly practical activities—and we do not marvel that our ancestors would build elaborate storage facilities for grain or water, but why on earth would they build even grander edifices for the bones of their dead?

Any phenomenon that apparently exceeds the functional cries out for explanation. The presumption is that we must be missing something, since it is, in a word, uneconomical, and as the economists are forever reminding us, there is no such thing as a free lunch. Evolutionary biologists would say the same thing: features of the evolving world do not persist unless they can pay for themselves somehow. We don't marvel at a creature doggedly grubbing in the earth with its nose, for we figure it is seeking its food; if, however, it regularly interrupts its rooting with somersaults, we want to know why. What benefits are presumed (rightly or wrongly) to accrue to this excess activity? From an evolutionary point of view, religion appears to be a ubiquitous penchant for somersaults of the most elaborate sort, and as such it cries out for explanation.

Burkert proposes to adopt a perspective "beyond individual civilizations, which must take account of the vast process of human evolution within the more general evolutionary process of life" (7). Consider one of his examples: he notes that there is a tempting parallel between the ubiquitous practice of sacrifice in human religions, and the "part for whole" sacrifice observable in other species: the fox who gnaws off its own paw to escape the trap, the "terror moult" of the bird who "suddenly sheds its feathers and thus leaves the attacker with a mouthful of plumage while escaping in a 'naked' state" (41). The cases from biology make eminent sense, of course; such sacrifice can be "plainly rational in its calculation of loss and gain." (40).

Burkert sees clearly that the path from these phenomena to human ritual sacrifice is winding at best, but he presses on: "Religion and zoology are seen to join hands" (41). How? What does this mean? How is such a juncture to be explained?

He elucidates: "This is not to postulate a definite inherited program of behavior, encoded genetically and passed on in continuous evolution from more primitive to higher living beings and culminating in man. The examples from different species are not connected by a continuous chain of evolution. . . We are dealing with analogies, not homologies". And he goes on to observe that "it would be equally difficult to hold that these human rituals and fantasies owe their whole existence to some form of intracultural learning, to observation or empathy, or to sheer creative fantasy". So the transmission is neither wholly genetic nor wholly cultural. Perhaps it is not *transmission* at all? What is the alternative? "a biological 'landscape' underlying experience" (42). Just so. Convergent evolution. Uniformities or regularities in the environment itself are just as reliable "transmitters" of pattern, if something like reason can be postulated to recognize it. We do not marvel that people settle near water in all cultures, any more than we marvel that people believe that 2+2=4 in all cultures. The bugbear of convergent evolution—and hence the *absence* of any transmission pathway—is always available whenever a ubiquitous feature *makes sense.* It is only the out-of-date features, the unfortunate legacies, that show clear evidence of genetic heritage (the environment having changed too fast for the genome to keep up), and only quirky, could-have-been-otherwise features that are unmistakable signs of cultural transmission (the tell-tale similarities of plagiarism being the best example). (That religions all use visual symbols is no evidence that there is either a symbolism-gene or a symbolism meme being transmitted; symbolism is too obviously good an idea. But if widely separated religions use the same symbols, that would raise questions—but the answers may not be obvious. A nice case is the apparently independent invention of the swastika by widely different groups.)

But this is not yet to explain how an appreciation of the part for whole sacrifice, an appreciation we share with other species, might get transmogrified into the excesses of human ritual sacrifice. And we need to explain how dominance hierarchies and submission rituals among conspecifics might turn into religious ceremonies honoring invisible Alpha males or females, how oaths accompanied by fero-

cious infliction of pain might evolve as behavioral innovations unconsciously designed to combat the defection problem, and so on.

There is no dearth of hypotheses: such features of religion might be like:

money: it is a well-designed cultural addition whose ubiquity can be readily explained and even justified: it's a Good Trick that one would expect to be rediscovered again and again, a case of convergent social evolution. The society benefits. (It is somewhat like *pheromone trails* laid down by social insects to coordinate the activities of their fellows—its utility can only be understood in the context of the group, raising all the issues of group selection.)

a pyramid scheme: it is a cleverly designed con game passed on (culturally) through the generations of an elite, who use it to take advantage of their conspecifics. Only the elite benefit.

a pearl: it is the beautiful byproduct of a rigid, genetically controlled mechanism responding to an unavoidable irritation.

a bowerbird's bower: it is the product of something analogous to runaway sexual selection, the elaboration of biological strategies caught on a positive feedback escalator.

shivering: this apparently pointless agitation of the body actually has a benign role to play in maintaining the homeostatic balance, by raising the body temperature. The shiverer benefits, in most but not all circumstances in which it occurs.

sneezing: invading parasites have commandeered the organism and are driving it to destinations that benefit *them*, whatever its effects on the organism.

The truth about religion might well be an amalgam of several of these hypotheses (or others). But even if this is so—especially if this is so—we will not get a clear vision of why religion exists until we have clearly distinguished these possibilities and put each of them to the test. They do not all pull in the same direction. All of the hypotheses seek to explain religion by uncovering some benefit, some work done to pay the costs, but they differ strikingly on one issue: *cui bono*? Who or what is the principal beneficiary?

One of the best savored ironies in the history of science is that Darwin had a copy of Mendel's paper in his study, but didn't appre-

ciate how it could solve his most nagging theoretical problem: the problem of blending inheritance. A similar irony is that Burkert has read Richard Dawkins' *The Selfish Gene* (1976), but still fails to appreciate its messages; he doesn't recognize that Dawkins' ideas are just what he needs to clarify the area of greatest fogginess in his own account—we might call it his problem of blending explanations. Dawkins' book introduced the idea of memes—units of cultural replication—an idea that Burkert abruptly dismisses as mere metaphor, but it also stressed the importance of the *cui bono*? question, by showing how evolutionary theorists have often misled themselves by failing to ask at every juncture just whose interests are being advanced: those of the individual, the elite, the social group as a whole, or those of some selfish genes—or even the selfish memes themselves. Burkert sometimes doesn't notice when his attempts at explanation wander between these quite distinct possibilities, mixing considerations of varying relevance and ignoring the different implications of these hypotheses.

This is a surprisingly lapse, since Burkert is well aware of the pitfalls of simplistic Darwinism. He crisply rejects the caricature of evolutionary thinking that turns it all into "genetic determinism". As he notes, "The prospect for discovering religious genes is dim" (17), but he appreciates that this would not be the sole or even chief quest of an evolutionary understanding of religion. And he is under no illusions about what he can demonstrate scientifically: "there is no way of testing this hypothesis, be it through 30,000 or 300,000 or 3,000,000 years, through 1,000, 10,000 or 100,000 generations; by scientific standards the hypothesis loses its point. We can only vaguely reconstruct the decisive cultural conditions". Indeed, I think he is overly pessimistic on this score. The chains of reasoning and evidence forged to support today's accounts of life in the Jurassic are often breathtakingly ingenious and complex; efforts to deduce and confirm crucial details of the last few hundred thousand years of hominid evolution have not come close to exhausting their resources. Audacious efforts to reconstruct the past sometimes strike gold that would never be recognized by an explorer without a theory.

Burkert is an explorer of vast knowledge and the rudiments of a theory. What is the relation between genetic transmission and cultural transmission? Burkert gets part of the story clearly: "Information survival asserts itself side by side with and even instead of genetic survival" (24). These are two parallel and at least partially independ-

ent processes of selection and replication, but the theorist he then turns to is Durkheim, not Dawkins. "If we adopt the Durkheimian concept of 'collective representations,' we might ask, why do people accept them, and why certain ones among them?" He then considers the oft-noted possibility that people are duped into accepting them by an elite, but never quite considers the prospect that even the elite are duped into accepting them—by the memes themselves, in effect, parasitically exploiting proclivities they have "discovered" in the human cognitive-immune system.

Burkert persistently overlooks this possibility. Consider a few instances. At the outset he notes the "ubiquity of certain less trivial phenomena, which are culturally determined in every case and yet not generated or explicable in isolation. . . . They must be presumed to fulfill basic functions for human social life in all its forms, even if it is easy to imagine alternatives" (4). Indeed these phenomena *may* fulfill basic functions *for us*, but they may also do *us* no good at all, but rather earn their keep by serving cultural parasites whose only master is their own replication. Burkert would like to argue, from Darwinian principles, that religion must serve human interests:

> Because on the whole the history of religions has been a story of success, a good strategy for survival in the long run must have been at work. In other words, a certain survival fitness of religion has to be granted. (13)

Survival fitness for whom? The "obvious" answer to would-be Darwinians is still "humanity" or *Homo sapiens sapiens*, but this "good of the species" answer has now been firmly discredited by evolutionary theory. Even if, as seems highly probable on Burkert's showing, religion has often served human interests, and been selected for these benefits, the case that needs to be made is more complex than Burkert recognizes.

He presents all the right pieces, but just never quite put them all together. He clearly sees, for instance, the interactive effect of two of the most potent phenotypic features of some religious memes: they are a potent palliative—an opiate of the masses to which one might well become addicted—and in the process of providing relief they deflect the sort of criticism that might extinguish them:

> Affliction is made bearable by an ultimate if nonempirical answer to the grieving one's question, 'why.' To introduce the unseen is to interrupt the closed functional chain of events—which also means that religion is never fully integrated into any system of society but retains some character of 'otherness'. (27)

In other words, religion keeps its distance (like a medium or a stage magician), always reserving the "right" to duck out of sight or decline to perform, whenever the scrutiny becomes too intense. This power need not be consciously appreciated by the elite that are its vectors. Burkert also sees room for a contrast between "cultural" and "genetic" fitness. "Religions are established by learning, they are propagated both through imitation and through explicit verbal teaching. Traditions developed in this way can evidence a kind of cultural fitness for survival without any genetic basis" (16). This appeal to "cultural fitness" needs some clarification, however. Sometimes Burkert seems to think it is the genetic fitness of those who have the cultural item in their kit, but this is just one possibility; other times he sees that genetic fitness may be beside the point—as when he points to the sixty generations of priestly celibacy in the still robust tradition of Roman Catholicism.

The Shakers carried that idea one step further, prohibiting procreation among all their members, not just the clergy, a policy that soon led, not surprisingly, to their extinction. But we should temper our conviction that this result was all too foreseeable. It was not inevitable, as a thought experiment will bring out. Imagine a sect, like the Shakers, that rigorously prohibits procreation among all its devout, but that (unlike the Shakers), has a creed of enormous proselytizing power; for one reason or another people convert to this religion in droves—and never bear children. Instead, they proselytize the heathen. This pattern persists for a thousand years (let's say). That persistence would receive a Darwinian explanation but not in terms of the enhanced genetic fitness of the individuals that transiently embody the cultural group. Their genetic fitness is zero—they leave no grandchildren at all. It is a logical truth that if this cultural phenomenon swept to fixation, converting all the members of our species, it would promptly extinguish both the species and itself, but that boundary condition has no leverage to force all the patterns actually discernible in human history to pay their dues to genetic fitness. The memes' perspective is *obligatory* to explain such phenomena—if they occur. And we cannot even frame the questions that would settle whether they occur without entertaining the memes' perspective as a tool of enquiry.

There are more ways of being a good Darwinian naturalist about culture than Burkert realizes. Here is his stab at a summary statement of his overarching hypothesis: "religion, once entrenched as a

cultural phenomenon, brought definite advantage to certain individuals and thus was likely to multiply their and their adherents' chances of offspring and hence their genes, to the detriment of the nonreligious" (12). This is only one of the interesting evolutionary hypotheses to consider. As he notes, "The fitness of religion in the sense of procreation and survival value is not at all agreed upon" (12). Indeed it is not, even by those who are confident that an evolutionary perspective is the royal road to enlightenment on this topic.

I dwell on these shortcomings only because Burkert has whetted my appetite beyond what he can satisfy with his feast of good suggestions. As usual, God is in the details, but let me sketch his tentative answers to a few key questions:

Might there be a genetic predisposition for susceptibility to the emotional triggers of religious rituals and institutions?

Indeed there might. There might be "genes for religion" after all, just as there might be genes anachronistically but tellingly describable as genes for dyslexia (Dennett 1995: 116–117). There could obviously be genetic predispositions for herd-joining or loneliness-hating, or for susceptibility to rhythmic patterns in auditory and locomotory phenomena—for a love of music and dance in short. And there also could be a genetic predisposition for the sort of hair-raising, bone-trembling awe that engulfs many of our conspecifics when they are given a religious experience. "To transmit religion is to transmit fear". (30) Burkert offers a evolutionary scenario of a cascade of bottlenecks that could select for such genes. "Although religious obsession could be called a form of paranoia, it does offer a chance of survival in extreme and hopeless situations, when others, possibly the nonreligious individuals, would break down and give up. Mankind, in its long past, will have gone through many a desperate situation, with an ensuing breakthrough of *homines religiosi*" (16).

Why should rituals take on the forms they do?

Consider Burkert's account of the rituals in many cultures by which adolescents are initiated into adulthood. Why do they occur? Why don't other species engage in them?

> Initiation rituals are anything but natural. It is a mistake to make the assumption that nature transforms itself into ritual, and ritual in turn is followed by language. Rituals are complicated, ambivalent, and not seldom opaque *even to those who practice them.* It makes more sense to see them as cultural attempts to make the 'facts of life' manageable and predictable; to perform an act of artificial social creation, as if to veil biology. In performing such rituals people act as if the adolescent, male or female, could not simply grow adult on his or her own, but must be made a man or woman by society. Ritual activity follows the clues of nature, but works on them with the force of conscious tradition elaborated through unnatural, cultural choice; with exaggeration, repetitiveness, and other complications. (75; emphasis added)

As a general rule, animals *don't* have a clue about why they do what they instinctually do, and human beings are no exception; the deeper purposes of our "instincts" are seldom transparent to us. The difference between us and other species is that we are the only species that cares about this ignorance! Unlike other species, we feel a general need to "understand". Human adolescents get in the habit of asking "why?" and something has to be done to assuage their reflective questioning of the strange things that are happening in them. They want it to make more sense than it does. Culture obliges with an opulent festival of excess meaning, and "this provides a verbalized sort of script to accompany natural change, handed down in oral tradition, to facilitate the understanding of memorable developments while hiding part of them" (78). This is all intensely plausible, I think, but it neglects *cui bono*? Is the ceremony, like good folk medicine, a fine if ill-understood palliative for a genuine ache, or is it, like bad folk medicine, something the adolescents would do better without, but which the adult culture imposes on them (perhaps with the best of intentions, perhaps not)? Might the traditions persist *in spite of* the fact that they (no longer) serve any social function but merely go piggyback on the meme for tradition itself? (Think of the song, "Tradition!" in *Fiddler on the Roof.*)

The need to know why could be the source of many other rituals and practices. Like menarche, plagues and other catastrophes lead to new whys. Why to us? What did we do wrong? The weather (adverse winds for fleets, floods, and droughts) is another handily chaotic and hence incomprehensible and unpredictable source of punishment and reward. This reflective puzzlement is a good impetus to science, but until science came along, one had to settle for personifying the unpredictable—adopting the intentional stance toward it—and try-

ing various desperate measures of control and appeasement. (In *The Future of an Illusion*, Freud calls religion "a substitute of psychology for natural science" [26].)

This explanation puts a contemporary puzzle in a better light: If the foundation of cults is so often in the pattern of a response to a calamity (such as a drought or plague), then why are cults founded so readily today? Which calamity is driving people into cults? It seems to be a general *aporia*, a loss of meaning or nerve, a thirst for simple answers to overwhelming complexity. I suspect it is this last oppression that weighs the heaviest. And it is not belied by the fact that "we" are understanding ever more of our surroundings, conquering disease, and overwhelming the complexities of nature with our scientific theories. For not everybody belongs to this "we". Those who see themselves as outside the gates of the scientific culture (which of course includes not just scientists, but all the science-literate, science-friendly people) see it as approximately as threatening to their own sense of power as Martians with advanced technology beyond our ken would seem to us. Their reaction is not unreasonable: If you can't join 'em, beat 'em.

Why should religion home in so regularly on the ritual practice of giving gifts to an unseen God?

"How could such a principle become dominant in religion, where one side of the deal must necessarily remain unseen?" (138). There are several threads to the answer. First, and obviously, there is the well-known profile of superstitious belief, so hard to disconfirm in experience. As B. F. Skinner and Richard Herrnstein demonstrated in pigeons some years ago, elaborate "superstitious behavior" can be entrained in animals put on a random reinforcement schedule. "If asked why they keep to their strange and sometimes bizarre religious ceremonies, so-called primitives will usually reply that they would fall sick if they didn't" (108). Spontaneous remission provides just the random reinforcement schedule required. Moreover the survivors, when there are survivors, will have lots of hunches about *what they* did that was right. Credit assignment (as it is known in debugging circles) is a notoriously hard problem. Giving to the gods (just to be safe) is further enforced by cognitive dissonance, in effect. All give to the gods; those who prosper praise the gods and declare their success; those who don't go silent, or make up excuses and explanations. One

is led to wonder: what is the minimum success rate required to establish such customs?

> "Look at all these votive gifts", Diagoras the atheist was told in the sanctuary of Samothrace, which houses the great gods who were famous for saving people from the dangers at sea. "There would be many more votives", the atheist unflinchingly retorted, "if all those who were actually drowned at sea had had the chance to set up monuments". (141)

But there is more to it than that. People often turn over their life savings to perfectly visible individuals whom they deem to be the givers of great gifts of one intangible sort or another, but there is a further basin of attraction for the idea of an invisible God, not just the current King or Boss or Earthly Benefactor (the alpha male or female), but an unseen higher-up.

This might be a response to a scale effect: what happens to the alpha in any social group if the band gets bigger and bigger (thanks to agriculture, thanks to better living conditions, new improvements in hygiene, or fighting off predators)? Must the group disintegrate or splinter? Perhaps. Perhaps that happened, amoeba-like, thousands of times before some innovation permitted a larger group to self-stabilize. Such an innovation might be the discovery, by an alpha, that there is additional safety in declaring oneself to be a mere "messenger of power": "He administers the power of the stronger one without running the full risk of responsibility" (98). Alphas learn that they have to keep the pressure on. "Men are cunning by nature and prone to disobey; this is the constant complaint of prophets" (100).

Accepting inferior status to God, the Lord, is a cunning stratagem, whether or not its cunning is consciously recognized by those who stumble upon it. Those who rely on it will thrive, wittingly or otherwise. Submission rituals in animals are the ground in which such a stratagem could take root. Submission entails security; Daddy will take charge. So an obvious function of submission is to reduce aggression. (*Cui bono*? The individual? The group? This is not a settled question.) An obvious function of even the king having to submit to a higher, but invisible, force is clear: as every subordinate knows, one's commands are more effective than they might otherwise be, if one can accompany them with a threat to tell the bigger boss if disobedience ensues. (Variations on this stratagem are well-known to mafia underlings, used car salesmen, and others.) The point is brought out by what is otherwise a bit of a puzzle. Any dictator

depends on the fidelity of his immediate staff—in the simple sense that any two or three of them could easily overpower him (he can't go around with dagger drawn all his life). How do you, as a dictator, ensure that your immediate staff puts its fidelity to you above any thoughts they may very well have about replacing you? Putting the fear of a higher power in their heads is a pretty good move. In fact, there is probably an unspoken detente between chief priest and king—each needs the other for his power, and together they need the gods above. God will get you if you try to cross either one of us. Burkert is particularly Machiavellian in his account of how this stratagem brings the institution of ritual praise in its wake:

> By the force of his verbal competence he not only rises to a superior level in imagination but succeeds in reversing the attention structure: it is the superior who is made to pay heed to the inferior's song or speech of praise. Praise is the recognized form of making noise in the presence of superiors; in a well-structured form, it tends to become music. Praise ascends to the heights like incense. Thus the tension between high and low is both stressed and relaxed, as the lower one establishes his place within a system he accepts emphatically. (91)

Although Burkert never mentions Nietzsche—a thought-provoking silence, given the common ground they tread—he fully appreciates the *economic* rationale that Nietzsche stressed behind this hierarchical authority structure. (I find myself reminded of Nietzsche's view of religion almost every time I take my returnable bottles and cans to the local Redemption Center.) Exchanges of property need a stable guarantor of the system: what is not mine and not yours but belongs to a third party not present needs to be protected from our desires. Nietzsche's insistence that religion is needed to "breed an animal *with the right to make promises*" can be seen in Burkert's discussion of oaths. "Oaths are . . . strategies of tricky humans endowed with language, who will match every attempt at validation with new attempts at deception". Early oaths did not just involve a hand on a Bible, he tells us, but taking entrails in hand, dipping hands in blood, and even more shocking encounters, designed, it seems, to ensure the "unforgettable imprint of psychic terror" (168). This escalation of costliness reminds one of the Zahavi Principle (which has somehow eluded Burkert's gaze): only costly advertising carries its credibility on its sleeve. Burkert sees the relevance of this to evolutionists' work on the Prisoner's Dilemma—he mentions it briefly, page 139—but he also recognizes the complexity of the issues, and chooses not to go out on

any limbs, exhibiting wise caution. But one point at least seems undeniable: one can always evade the quandary of the Prisoner's Dilemma by having Big Brother watching. Put an overseer—a merely *believed in* overseer will do handsomely—on the scene ubiquitously.

Burkert sketches analyses of many other phenomena: signs and divination, the relation between social gift-giving (as distinguished, importantly, from ordinary economic exchange) and religious ritual, tattoos, the use of precious metals in religious artifacts, and much more. He devotes a lengthy chapter to the role of narrative in human culture, and the themes that are ubiquitous in the most "primitive" folklore as well as in the great religious narratives that are its descendants. He points out how these tales exist in versions all over the world, in cases where there is little question of cultural transmission. Indeed, these stories don't have to be encoded in the brain innately; they can be encoded, implicit, in other parts of the body—e.g., the reproductive system. Menarche, the possibility of rape, the ordeal of childbirth, these ubiquitous event types can all by themselves carry a huge informational load, guaranteeing that stories will be reinvented, every generation if need be, stories that speak to the needs of beings who must go through these experiences.

Darwin's breakthrough in biology was enabled by his deep knowledge of the wealth of empirical details scrupulously garnered by hundreds of pre-Darwinian, non-Darwinian natural historians. Their theoretical innocence was itself an important check on his enthusiasm; they had not gathered their facts with an eye to proving Darwinian theory correct. Burkert stands in a similar relation to the wealth of scholarship accumulated by historians and anthropologists about the details of religious practices, attitudes, and artifacts through the ages. He is in a good position to appreciate the relevance—unimagined by those scholars—of many of their hard-won facts. His strength, then, is more as the alert and imaginative guide to the available resources than as a theorist. That suggests a fine division of labor; let those who would specialize in the theory of cultural evolution be instructed by his pioneering work. Other indispensable contributors to this interdisciplinary project will be those who are as encyclopedic in their knowledge of Asian, African, and American religions as Burkert is about the religions he knows best. His scholarship is vast, but he acknowledges that he has had to build his case from his home base in Mediterranean and European cultures, with sidelong glances only at the Western Hemisphere and other variations.

It is disconcerting to note, however, that it may be difficult to enlist many of his scholarly humanist colleagues in this collaborative research effort. An author's defenses, like an animal's, imply a great deal about the world in which he lives, and there are altogether too many signs in his book that any attempt to introduce evolutionary considerations into a discussion of cultural topics is bound to run into a wall of hostile incomprehension. Above all, instead of ungenerously criticizing Burkert for his minor scientific shortcomings, we should congratulate him for educating himself so well in the face of such paranoid opposition. Burkert knows his audience and has taken major steps towards solving problems of diplomacy and communication. His experience and fluency in the land of culture studies far outweigh the minor, and easily amended, gaps in his scientific knowledge. A world of research opportunities beckons.

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