APPRAISING GRACE

What evolutionary good is God?

BY DANIEL C. DENNETT

CREATION OF THE SACRED: TRACKS OF BIOLOGY IN EARLY RELIGIONS
by Walter Burkert
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Torah crown, Lemberg, Galicia, 1764-73

ALL HUMAN GROUPS, IT seems, have practiced religion. Groups have gone without agriculture, without clothing, without laws, without money, without the wheel or without writing, but not, apparently, without religion. Ritual burial of humanity's hominid ancestors may even predate spoken language, the other striking difference that separates people from all other species. Religion, moreover, does not seem to have been a mere passing phase in human evolution; even in the most technocratic and materialistic corners of contemporary civilization, religion has found niches in which to flourish.

Why does it exist? With *Creation of the Sacred*, the distinguished historian of ancient religion Walter Burkert, a professor of classics at the University of Zurich, joins the impressive ranks of scholars who have addressed that question. Unlike most of the others, though, 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.

On the face of it, there are plenty of reasons for religion *not* to exist. As Burkert notes, gods are expensive—sometimes ruinously so. "Give till it hurts," the bejeweled preacher exhorts the rapt congregation gathered into the revival tent. And for as long as people have owned things of value, they have done just that, pouring their hard-won wine onto the ground, burning their most prized livestock or even their children on sacrificial altars, living in shacks and caves while collectively building vast temples and mausoleums. "Spartans stopped warfare to celebrate their festivals even at crucial moments," Burkert writes. "Jews decided to die rather than defend themselves on the Sabbath." Such lavish and deliberate "squandering" of time and resources is the hallmark of religion. Spending scarce resources on elaborate granaries or cisterns seems eminently reasonable to our pragmatic age; but why on earth did ancient peoples build even grander edifices for the bones of their dead?

Any phenomenon that apparently exceeds its functional justification cries out for explanation. The activity is, in a word, uneconomical, and as the economists are forever reminding us, there is no such thing as a free lunch. Evolutionary biologists agree: in the long run, features of the evolving world do not persist unless they can pay for themselves. In addressing the evolutionary value of religion, Burkert approaches the job with laudable detachment and frequent flashes of tart humor. In the end he does not provide a single unified answer, let alone a confirmed one, to the question of the origin of religion. But he does open up the territory, raising many new—and investigable—questions while organizing a wealth of historical detail for the benefit of future sleuths.

BURKERT BEGINS WITH A TEMPTING PARALlel, comparing the practice of sacrifice, virtually ubiquitous in the world's religions, with the sacrifice of "part for whole" observable in nonhuman species. The fox gnaws off its own paw to escape the trap. The bird suddenly effects a "terror molt," shed-

ding its feathers to wrench itself free of an attacker. "This is not," Burkert writes,

> 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.

At the same time, he writes, "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."

If the transmission of sacrificial ritual from the animal world to the human world is neither entirely genetic nor entirely cultural, what else could explain it? Burkert suggests that there is "a biological 'landscape' underlying experience," and that such a landscape could indeed provide the pathway. Uniformities or regularities in the environment itself are just as reliable "transmitters" of pattern as genes or culture are, provided the experiencers have enough intelligence to recognize it. No one marvels that people in all cultures settle near water, any more than they marvel that people in all cultures believe that 2 plus 2 is equal to 4. Reinvention is the analogue in culture of convergent evolution in genetics. It marks the *absence* of any shared transmission pathway, and it is always a serious possibility whenever a ubiquitous feature makes sense. That religions all use visual symbols, for instance, is no evidence that there is either a symbolism gene or a symbolism tradition being transmitted; symbolism is too obviously good an idea. If widely separated religions invoke the *same* symbols, however, that raises questions—though the answers might not be obvious. A tough case is the apparently independent invention of the swastika by widely different groups.

A PARTLY SHARED "BIOLOGICAL LANDSCAPE," however, would not yet explain how an innate appreciation of part-for-whole sacrifice could get transmogrified into the excesses of human ritual sacrifice. One would also need to explain how, for instance, religious ceremonies honoring dominant figures who remain (mostly) invisible might arise out of dominance hierarchies and submission rituals among the individuals within a species; how oaths accompanied by ferociously inflicted pain might evolve as behavioral innovations unconsciously designed to combat the problem of defection from the group; and so on.

There is no dearth of possible models of such evolution. A feature of religion might be like

- *money:* a well-designed cultural innovation, so obviously useful that one would expect it to be discovered again and again; an instance of convergent social evolution from which societies always benefit. But if the utility of a religious feature (like the utility of the pheromone trails laid down by social insects to coordinate the activities of their fellows) can be understood only in the context of the group, the feature raises the question of what conditions must be in place for such group selection to take place within a Darwinian framework;
- *a pyramid scheme:* a cleverly designed con game passed on (culturally) through the generations of an elite group, who alone benefit from it, at the expense of outsiders;
- *a pearl:* a beautiful by-product of a rigid, genetically controlled mechanism responding to an unavoidable irritation;
- *a bowerbird's bower:* a product of something analogous to runaway sexual selection, the elaboration of biological strategies caught on a positive-feedback escalator;
- *shivering:* an apparently pointless agitation of the body that actually has a benign role to play in maintaining a homeostatic balance, benefiting the individual in most, but not all, circumstances in which it occurs; or
- *sneezing:* an activity often driven by invading parasites that have commandeered the organism, driving it to destinations that benefit *them,* whatever its effects on the organism.

The truth about religion might well be an amalgam of several such explanations, or of others. All such 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?

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.

BUT SURVIVAL FITNESS FOR WHOM? THE "OBvious" answer to would-be Darwinians is humanity, the species *Homo sapiens sapiens* as a whole. Evolutionary theory, however, has shown that natural selection does not operate for the good of the species; it confers competitive advantages only on individual organisms or, in some cases, on groups of organisms. Even if—as seems highly probable from Burkert's account—religion has often served human interests and has been selected for those benefits, the case that needs to be made is more complex than Burkert recognizes. Here is one of his stabs at summarizing his main 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."

James Hampton, The Throne of the Third Heaven of the Nation's Millennium, The General Assembly, *1950-64*

But that is only one of the interesting evolutionary hypotheses to consider. There are more ways of being a good Darwinian naturalist about culture than Burkert realizes.

One of the best-savored ironies in the history of science is that Charles Darwin wrestled vainly for years with his theory's major problem while the solution was right under his nose. The problem was blending inheritance: why aren't the features an organism inherits simply an equal mix of its parents' features, so that all the differences among individuals in a species eventually average out? The solution—indivisible genes—was in Gregor Mendel's groundbreaking monograph on pea plants, a copy of which lay unappreciated in Darwin's study.

It is a similar irony that Burkert has read Richard Dawkins's 1976 book *The Selfish Gene* but missed its implications for clarifying the foggiest part of his own account: call it the problem of blending explanations. Dawkins emphasizes the importance of cui bono, showing that evolutionary theorists have often misled themselves by failing to ask, at every juncture, just whose interests are being advanced: those of the individual; of an elite; of the social group as a whole; of certain so-called selfish genes that organisms carry; or even of the selfish vehicles of *cultural* transmission, which Dawkins calls memes. (Memes are complex ideas—in the sense of something one might patent or copyright, not in the sense of an element of experience. The idea of the wheel is a meme; so is the idea of hijacking airplanes—a meme that tends to replicate even though it is not beneficial to people.)

Burkert abruptly dismisses memes as mere metaphor and hence tends to overlook the possibility of radically different answers to the question of beneficiary. As a consequence, he sometimes fails to notice when his attempts at explanation wander between quite distinct possibilities, mixing considerations of varying relevance and ignoring the disparate implications of his hypotheses. That is a surprising lapse, since Burkert is well aware of the pitfalls of simplistic Darwinism.

WHAT IS THE RELATION, THEN, BETWEEN GEnetic and cultural transmission? Burkert gets part of the story right: "Information survival asserts itself side by side with and even instead of genetic survival." He sees that those two kinds of survival are parallel and at least partly independent processes of selection and replication. But the theorist he then turns to is not Dawkins but the father of sociology, Émile Durkheim. "If we adopt the Durkheimian concept of 'collective representations,' we might ask, why do people accept them, and why certain ones among them?" The answer he considers is the oft-noted possibility that people are duped into accepting them by an elite, but he ignores the prospect that even the elite might be duped into accepting them—by the religious memes themselves, in effect, parasitically exploiting proclivities they have 'discovered' in the human cognitive-immune system.

Burkert persistently overlooks that possibility. At the outset he lists widespread phenomena that "must be presumed to fulfill basic functions for human social life in all its forms, even if it is easy to imagine alternatives." Indeed, those phenomena *may* fulfill basic functions for us, but they

Kota guardian figure (mbulungulu), Gabon, nineteenth century

may also do *us* no good at all, rather earning their keep by serving cultural parasites whose only master is their own replication. For instance, the meme declaring that *reason is an inappropriate arbiter in matters of faith* serves the replicative interests of whatever meme it joins, automatically deflecting rational criticism. That is obvious when it joins forces with preposterous ideas, such as trance channeling ("Don't you see? The trance is broken whenever a skeptic gets too close!"). But in every case it serves those interests independently of the actual value of the idea it helps to prosper. Another example is the idea that eternal damnation will be the fate of any who deny the creed; like the idea that calamity will befall the person who breaks the chain in a chain letter, it fosters *dissemination*—a term whose etymology is a fine fossil trace of cultural evolution.

Burkert presents all the right pieces, but he never quite puts them together. He clearly sees, for instance, that

> 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."

In other words, religion keeps its distance (like a medium or a stage magician), always reserving the right to duck out of sight or to decline to perform whenever the scrutiny becomes too intense. But Burkert does not note that that power need not be consciously appreciated by the elite who are its vectors. *Something* has to select that widespread feature. If it is not consciously selected by the elite, what force favors it? Memetic selection itself: memes having that feature tend to persist in human environments.

Burkert does understand the need for a contrast between cultural and genetic fitness. "Religions are established by learning," he writes. "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." But Burkert's appeal to cultural fitness needs some clarification. Sometimes he seems to think it refers to the genetic fitness of people who have already acquired the cultural meme; at other times he recognizes that genetic fitness can be beside the point. Sixty generations of priestly celibacy in the still robust tradition of Roman Catholicism surely make it clear that a meme can survive without a supporting gene.

The Shakers carried the idea of celibacy even further, prohibiting procreation among all their members, not just the clergy. That policy contributed, surely, to their extinction, but it need not have done so. One way the Shakers increased their flock was by giving refuge to widows and orphans; when changing social conditions drained that pool of potential converts, the Shakers became extinct. But that was not a foregone conclusion, as a thought experiment shows:

Imagine a sect of super-Shakers that hits upon 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. The pattern persists for a thousand years (let's say). Its persistence would receive a Darwinian explanation, but *not* in terms of the enhanced *genetic* fitness of the individuals that transiently embody the cultural group. The genetic fitness of the hypothetical celibates is zero—they leave no grandchildren at all. Indeed, if their faith swept to fixation, converting all the members of our species, it would promptly extinguish both the species and itself; but that extreme 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 one cannot even frame the questions that would determine whether they occur without entertaining the memes perspective as a tool of inquiry.

I DWELL ON BURKERT'S SHORTCOMINGS ONLY BEcause he 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 Burkert's tentative answers to two key questions.

Why should rituals take the forms they do? Consider Burkert's account of the rituals that initiate adolescents into adulthood in many cultures. Why do such rituals take place? Why do other species not engage in them?

> Initiation rituals are anything but natural. . . . Rituals are complicated, ambivalent, and not seldom opaque *even to those who practice them* [emphasis added]. . . . 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.

As a general rule, animals *do not* have a clue about why they do what they instinctively do, and the human animal is no exception; the deeper purposes of our so-called instincts are seldom transparent to us. The difference between us and other species is that we care about our ignorance. Human adolescents question the strange things that are happening in them. They want the changes of puberty to make more sense than they do. Many cultures oblige them with an opulent festival of excess meaning, and "this provides a verbalized sort of script to accompany natural change."

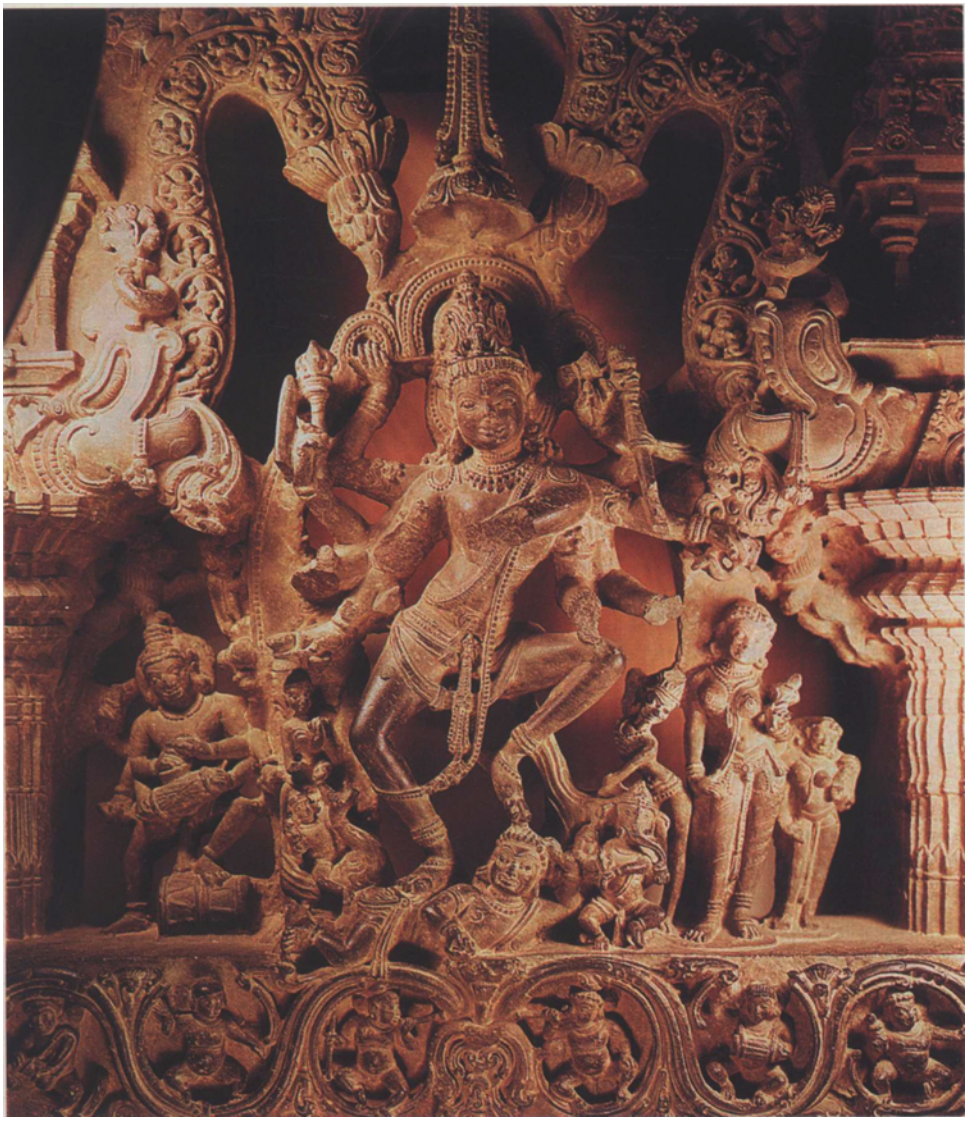
Burkert's account is plausible, but it neglects Dawkins's cui bono. Is the initiation ceremony, like good folk medicine, a fine if ill-understood palliative for a genuine ache; or is it, like bad folk medicine, something adolescents would be better off without? Could it be that ceremonial traditions persist *even though* they no longer serve any useful social function but merely ride piggyback on the meme for tradition itself? (Think of the song "Tradition" in *Fiddler on the Roof.*)

The characteristically human desire to know why could be the motivating source of many other rituals and practices. Just as menarche does, plagues and other catastrophes stir compelling new demands for explanation: Why us? What did we do wrong? The weather, for instance, is a handily chaotic, and hence incomprehensible and unpredictable, source of punishment and reward. Such reflective puzzlement is a spur to science, but until science came along, one had to settle for personifying the unpredictable and trying desperately to control or appease it.

If cults were typically founded in response to disaster or plague, why are cults proliferating today? What calamity is driving people into them? The answer seems to be a general *aporia*: a loss of meaning or of nerve, a thirst for simple answers in the face of overwhelming complexity. I suspect it is the last oppression that weighs the heaviest—notwithstanding the fact that "we" are understanding ever more of our surroundings, conquering disease and overwhelming the complexities of nature with scientific theories. For not everyone belongs to this "we." For many people the scientific culture is as threatening to a personal sense of self-determination as Martians with incomprehensibly advanced technology would seem to you or me. The reaction of such people is not unreasonable: if you can't join 'em, beat 'em.

BURKERT'S SECOND KEY QUESTION IS: *Why should religion so reliably home in on the ritual practice of giving gifts to an unseen God?* The answer has several threads. First, there is the well-known profile of superstitious belief, so hard for its practitioners to disconfirm in experience. As B. F. Skinner demonstrated some years ago, pigeons rewarded with food on a random schedule invent "superstitious behavior"—elaborate rituals growing out of whatever they were doing when they first got the food.

Burkert notes how the phenomenon can apply to certain religious practices: "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." The occasional spontaneous remission provides just the random reinforcement schedule required. Moreover, the survivors, when there are sur-



Siva Nataraja, Warangal temple lintel, India, twelfth century

vivors, will have lots of hunches about what *they* did right.

But there is more to religious gift giving than a superstitious attempt to control the future. People often turn over their life savings to perfectly visible individuals whom they deem to be the givers of great gifts of one intangible kind or another. The religious gift is typically made to an invisible god, not just to the current king or boss or earthly benefactor.

That practice might have arisen in response to a scale effect. What happens to the alpha, or dominant, male or female in any social group if the band is successful and gets progressively bigger? Must the group disintegrate or splinter? Perhaps. And perhaps that happened, amoebalike, thousands of times before some innovation enabled a larger group to stabilize. Such an innovation might have been the discovery, by an alpha, that there was additional safety in declaring oneself to be a mere messenger who, as Burkert puts it, "administers the power of the stronger one without running the full risk of responsibility."

Accepting inferior status to a deity is a cunning stratagem. Group leaders who rely on it, wittingly or otherwise, will thrive. As every subordinate knows, one's commands carry more weight when they are accompanied by the threat to tell the bigger boss if they are disobeyed. (Variations on the stratagem are well known to Mafia underlings and used-car salesmen.) At the apex of power, any dictator depends on the fidelity of his immediate staff, any two or three of whom could easily overpower him. Since he can't go around with dagger drawn all his life, putting the fear of a higher power in his subordinates' heads is a good way of ensuring loyalty. In fact, an unspoken detente probably exists between chief priest and king: the power of each depends on the other, and together they need the gods above.

THE GROUP LEADER WHO ACCEPTS *inferior status to a deity is employing a cunning stratagem. One's commands carry more weight with a bigger boss behind them.*

A HUNDRED YEARS BEFORE BURKERT, ANOTHER classical scholar, Friedrich Nietzsche, stressed the economic rationale behind such a hierarchy of divine authority. It is no accident, he wrote in *On the Genealogy of Morals,* that worshipers often beseech the gods to "forgive us our debts." (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.") Although Burkert never mentions Nietzsche—a thought-provoking silence, given the common ground they tread—he strikes similar notes when he describes how religion underpins trade. To buy and sell, people need to respect the property of absent owners. They must become self-mastering, self-admonishing, in a way no other species is—no easy task, considering how naturally devious people are. Fear of the gods provides a stable guarantor of the system.

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 involved not just laying 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." Such escalating costliness recalls the so-called handicap principle that the zoologist Amotz Zahavi of Tel Aviv University proposed in the 1970s (and that has somehow eluded Burkert's gaze). Only costly advertising, Zahavi said, carries its credibility on its sleeve. Evolutionary theorists have applied the principle to such biological extravagances as stag horns and peacock tails, noting how their very inconvenience broadcasts the superior fitness of the animals that bear them.

DARWIN'S BREAKTHROUGH IN BIOLOGY GREW out of his deep knowledge of a wealth of empirical details scrupulously garnered by hundreds of pre-Darwinian, non-Darwinian natural historians. Burkert stands in a similar relation to the wealth of scholarship accumulated about religious practices, attitudes and artifacts through the ages. *Creation of the Sacred* includes analyses of 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; the role of narrative in human culture; and much more. Burkert is in a good position to appreciate the relevance of such hard-won facts—typically unimagined by the scholars who uncovered them.

His strength, then, is more as the alert and imaginative guide to the available resources than as a theorist. That distinction suggests a fine division of labor: let those who would specialize in the theory of the evolution of religion be instructed by his pioneering work. Other indispensable contributors to the interdisciplinary project will be scholars who are as encyclopedic in their knowledge of Asian, African and American religions as Burkert is about the Mediterranean and European religions he knows best.

It is disconcerting to note, however, that it may be difficult to enlist many of his scholarly humanist colleagues in such collaborative research. An author's defenses, like an animal's, imply a great deal about the world in which he lives. Burkert's book shows altogether too many signs that any attempt to introduce evolutionary considerations into a discussion of cultural topics is bound to run into a wall of hostile incomprehension at first. All the more need, then, for a seasoned interpreter. Burkert knows his audience and has taken major steps toward solving the problems of diplomacy necessary for effective 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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