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W. J.T. Mitchell, The Last Dinosaur Book (University of Chicago Press, 1998)

monsters and dinomania

IF WE ARE LOOKING for a general class of animals to place dinosaurs among, monsters are the obvious candidate. Brian Noble has shown convincingly that the gigantic size, ferocity, and "horror" of the dinosaur place it with the monsters. The long association of monsters with hybrid combinations of different species and groups also makes a good fit with the dinosaur's ambiguous placement between the birds and the reptiles. (Dragons, for instance, are generally portrayed as composites of reptilian and avian characteristics.

reptilian and avian characteristics, "plumed serpents" that live underground, but fly through the air.) The supposed sterility of monsters matches up with the stereotype of the dinosaur as an evolutionary dead end, a reproductive failure—a notion that Calvino's story sets out to subvert.2 Finally, as Noble also suggests, the very word "monster" is linked to "demonstration," the "showing" of visible evidence in a scientific argument. In Catholic ritual, the "monstrance" is the vehicle in which the sacred host is held up for display

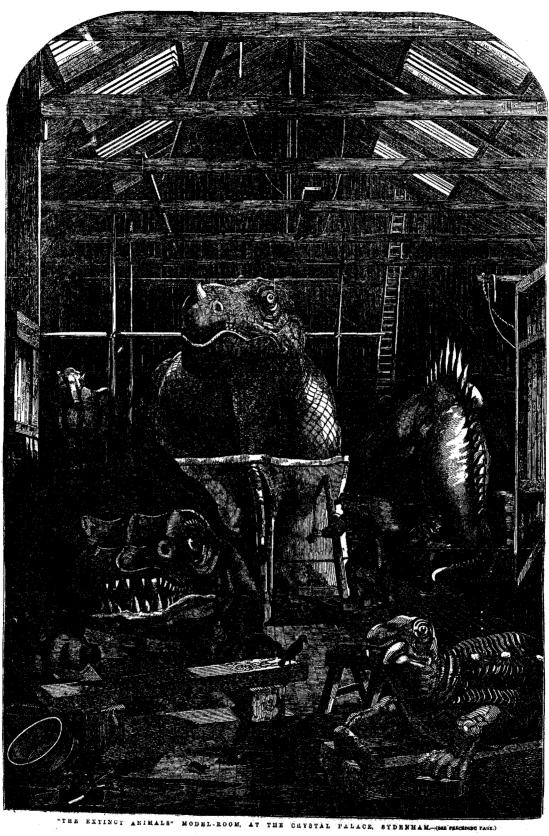
Macrauchenia [an extinct
South American mammal],
the neck of a giraffe, the
limbs of an elephant, the feet
of a chalicothere [an extinct
relative of the horse], the
lungs of a bird, and the
tail of a lizard?

with the nose of a

—WALTER R. COOMBS (quoted in William Stout, *The Dinosaurs*)

But a crucial feature of the "monstrosity" of the dinosaur is the ritual denial that it is a monster at all—the endless repetition of the claim that it is a real, natural kind, not an artificial or arbitrary class. Unlike the dragon, whose iconographic descendant it clearly is, the dinosaur is legitimated as real by modern science.

to the congregation.

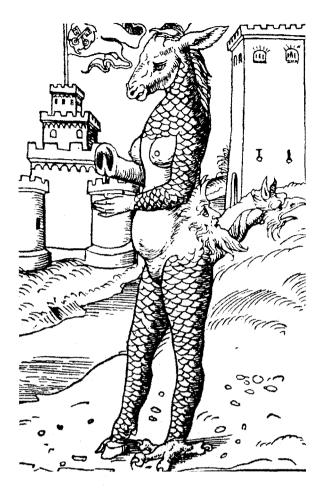


10.1 The extinct animal model room of Waterhouse Hawkins at the Crystal Palace, Sydenham. Illustrated London News, 31 December 1853. These early paleontological restorations portrayed extinct creatures as composites of familiar animal images: the Iquanodon in the center is a scaly rhino; the Hyleosaurus on the right is modeled on a dragon; the Tertiary mammal, Anoplotherium, on the left is an ancient pig-horse; the dicynodont (right foreground) is a walrus-turtle; the labyrinthodont amphibian (left foreground) is a toothy frog. (Photo courtesy of The Newberry Library, Chicago.)

Unlike real, scientific, natural monsters (Siamese twins, six-legged calves, hermaphrodites, elephant men), the dinosaur is not a deviation, anomaly, mutation, deformity, or hybrid, but a viable, "normal" animal. If we class the dinosaur among the monsters, then, we must put a whole row of asterisks after it, and answer a whole series of questions. What other monsters do we elevate to the position of public monuments? How many monsters can you think of that serve as hosts on children's TV programs, and as their first introduction to science?³

One answer to the puzzle of dinosaur image classification would be simply to declare that it is a "symbolic animal," one which, like lions, whales, sharks, bears, dragons, and unicorns, has been given a human significance. Like any other symbolic animal, it has a whole repertoire of metaphoric associations. Unlike the traditional bestiaries, however—those visual/verbal zoos filled with wily foxes, courageous lions, subtle serpents, and imitative apes—the dinosaur comprises a whole bestiary within itself, populated by gentle giant brontosauruses, fierce T. rexes, weird pterodactyls, shy stegosauruses, and (the latest invention) those "clever girls," the velociraptors of *Jurassic Park*, to say nothing of the whole cast of fictional dinosaurs from Gertie to Godzilla to Barney. The dinosaur provides, in short, a whole new "modern bestiary" (all "extinct," but all waiting to be resurrected). As such, it reflects the fate of nature-and specifically of animals—in the wake of that juggernaut we call "modernity," understood as the whole complex of man-made global forces that is leaving countless extinct species in its wake. The dinosaur is the animal emblem of the process of modernization, with its intertwined cycles of destruction and resurrection, innovation and obsolescence, expansive "giantism" and progressive "downsizing."4

The dinosaur also stands for the fate of the human species within the world system of modern capitalism, especially the "species anxieties" that are endemic to modernity, from decadence



10.2
Technically, a "monster" is not merely large, violent, or dangerous. It is a hybrid figure, a heterogeneous conjunction of incongruous parts in a single body. Here we see a more traditional monster, the "pope-ass," depicted as a hideous, obscene composite of animal and humanoid features.

to disaster to uncontrollable eco-suicide.5 In this respect, it is the true descendant of the dragons, those "prodigies" whose appearance in traditional societies signified war, plague, natural disaster, or the wrath of God. (The association of the Chinese dragon with good luck and imperial nobility is the dialectical obverse of the disaster omen.) The dinosaur is a prestige symbol for modern nation-states, and a model for ideologies of world conquest and domination. It is associated with childhood, old age, and everything in between. It is associated with sexual differentiation and reproduction, and with the failure to reproduce. It is a figure of everything alien to human nature (cold-blooded, reptilian, rapacious) and of all that is most familiar in human nature (cold-blooded, reptilian, rapacious). As you've probably noticed, the problem with this survey of the dinosaur as "cultural symbol" or symbolic animal is that it has too many meanings, and too many of them are contradictory. If one treats this subject as an anthropologist would, and interviews "native informants" about the meaning of dinosaurs and the reasons for their popularity, everyone seems to have a ready answer: it's their bigness, ferocity, rarity, antiquity, or strangeness; it's their uncanny appearance as erect reptiles, their commercial exploitability, or just because, as dinosaurologist Gregory Paul puts it, "dinosaurs look neat." It's because we can admire them as a world-dominant species, or feel superior to them because they died out. It's because they are a riddle and an enigma, or because they are a universally intelligible symbol.

The contradictions in dino-fascination become ever more evident the closer one comes to the core of the dinosaur cult, what might be called "dinomania"—the occupational hazard of dinosaurology. Is dinomania more like affection toward a pet animal or fear of a monster? Is the collecting of bones a compulsive fetishistic activity or a scientific pursuit? Are dinosaurologists really serious scientists, or just big kids who never outgrew their childhood fascination? Are dinosaurs really as important and wonderful as the dinosaurologists and dinomaniacs think, or are they just the relatively uninteresting sideshow that most people see them as? Stephen Spielberg makes his own ambivalence explicit in the opening sequence of *The Lost World* when he segues from the face of a mother screaming at the attack on her daughter by tiny scavenger dinosaurs to the face of Jeff Goldblum yawning in boredom. Has the manufactured thrill of a sequel ever been signaled quite so overtly?

What are we to do with this mass of divergent and contradictory testimony about the significance of dinosaurs? Are we to scream or yawn? One answer would be to treat the dinosaur as basically an empty sign, a blank slate on which individuals can project any meaning they wish. But this would leave the basic question unanswered: why should that blank slate be imprinted with the name and image of the dinosaur? Why have dinosaurs been selected to play the role of an infinitely flexible cultural symbol? What makes their bones the "bones of contention" that surface in so many different public and private spheres? The mere accumulation of symbolic meanings would also prevent us from looking for any kind of logic or system in the variety of things that people actually say about dinosaurs. More important, it would prevent us from noticing the things people do with them, the rituals performed around them, the dances they are made to perform.



THE TOTEM ANIMAL OF MODERNITY

nity. By this I mean, first, that it is a symbolic animal that comes into existence for the first time in the modern era; second, that it epitomizes a modern time sense—both the geological "deep time" of paleontology and the temporal cycles of innovation and obsolescence endemic to modern capitalism; and third, that it functions in a number of rituals that introduce individuals to modern life and help societies to produce modern citizens. I call it the totem animal because it is unique, sui

THE DINOSAUR IS THE TOTEM animal of moder-

generis. The modern world has many symbolic animals and many monsters, but none of them function in precisely the way the dinosaur does. It is not just a totem animal of modernity, but the animal image that has, by a complex process of cultural selection, emerged as the global symbol of modern humanity's relation to

nature.

The word "totem," as Claude Lévi-Strauss reminds us, "is taken from the Ojibwa, an Algonquin language of the region to the north of the Great Lakes of northern America. The expression ototeman . . . means roughly, 'he is a relative of mine.' "A totem (which is generally an animal, but can also be a plant, mineral, or even an artificial object) is thus a social symbol, a sign of the clan or collectivity.¹ In the world of sacred or superstitious objects and images,

totems occupy a kind of middle ground between

Everything proc that concerned the to true nature of the Dinosaurs must remain hidden. In the night, as the New Ones slept around the skeleton, which they had decked with flags, I transported it, vertebra by vertebra, and buried

my Dead.
—ITALO CALVINO, "The Dinosaurs"

the fetish (a private object of devotion or obsession) and the idol (a collective projection of absolute power and divinity). Totems are more social than fetishes, less absolute and authoritarian—less religious—than idols. Fetishes, in psychoanalytic theory, are associated with severed body parts, idols with human sacrifice. The totem animal, by contrast, is itself the sacrificial object, a substitute for the human victim.

Totem animals in traditional, premodern societies played four basic roles. They served (1) as symbols of the social unit (tribe, clan, or nation); (2) as ancestor figures reminding the clan of its ancient origin and descent; (3) as "taboo" objects, both in the general sense of sacred or holy things, and in the more specific sense of a prohibition against touching or eating the totem animal or having sex with a member of the same clan; and (4) as ritual objects, connected with the sacrifice of the animal followed by a "totem meal," in which the normally taboo animal is consumed. These functions are all independent of one another (it is relatively rare to find all of them present in traditional societies), and sometimes even contradictory: the forbidden object of sexual or culinary "consummation" may become the compulsory object of the sacrificial feast, the ritual meal or love object.

A moment's reflection reveals that the dinosaur plays all four of these roles, albeit in modified ways, in modern societies. The dinosaur is a "clan sign" for a wide range of social collectivities, from national to federal "states," from vanishing races to dominant, imperial civilizations, from warrior-hunter brotherhoods to dangerous new sisterhoods of "clever girls." As social symbol, moreover, the dinosaur is not merely a single, positive symbol for a specific tribe, nation, or species, but is itself a figure of collectivity, a group or series of species whose differences may be mapped onto any parallel set of differences in human society. Thus, the contrast between carnivorous and herbivorous dinosaurs can be encoded as a gender difference, equating "male with devourer and female with devoured" (the dominant tendency in traditional societies), or inverted (as in *Jurassic Park*, in which all the dinosaurs are female, and all their human victims are male). The major "types" of dinosaurs in folk or vernacular taxonomy (the "cookie cutter" stereotypes of T. rex, Brontosaurus, Triceratops, Stegosaurus, and Pterodactyl) provide a readymade bestiary for the differentiation of individuals and groups.4 Elementary schoolchildren are routinely encouraged to select (and identify with) their "favorite" dinosaur, inspiring role-playing fantasies of flight, monstrous ferocity, gentle giantism, and armored invulnerability. It is a tribute to Spielberg and Crichton's inventiveness that they have actually succeeded in introducing a new member to the folk taxonomy of dinosaurs. Velociraptor, the packhunting, fast-moving, highly intelligent predator, has now entered the global vernacular, and has been adopted as the clan sign and emblem of Toronto's professional basketball team. These differentiated dinosaurial types may also, on the other hand, be dissolved into a generalized figure of homogeneous mass society, as Capek does with his "Newts" or "erect salamanders."

The ancestral function of the dinosaur is relatively straightforward: The Age of Reptiles precedes and makes way for the Age of Mammals in the mas-

ter narrative of modern paleontology. Dinosaurs are the rulers of the earth before humankind. They must die out so that we can live; they must disappear or devolve into degenerate "creeping things" (or relatively harmless birds) so that we can appear and evolve into the dominant species. They are rather like the Chthonian (often reptilian) gods of the underworld in Greek mythology, the "giants of the earth" who had to be killed or imprisoned so that humanoid skygods, the Olympians, could assume dominance. This ancestral narrative is replayed, moreover, at the individual level in children's identification of their parents as dangerous dinosaurial giants who (fortunately) will inevitably make room for their offspring by becoming extinct (see "Lessons," the section on children and dinosaurs,

The most complex feature of the dinosaur totem is the cluster of taboos and rituals that surround its excavation and display. These form the core of public dinosaur fascination and "dinomania," the set of emotional and intellectual associations that give dinosaurs "magic" and "aura" in mass culture. Here we must note a few salient differences between dinosaurs and traditional totem animals. The traditional totem was generally a living, actually existing animal that had an immediate, familiar relation to its clan. The dinosaur is a rare, exotic, and extinct animal that has to be "brought back to life" in representations and then domesticated, made harmless and familiar. The traditional totem located power and agency in nature; totem animals and plants bring human beings to life and provide the natural basis for their social classifications. By contrast, the modern totem locates power in human beings: we classify the dinosaurs and identify ourselves with them; we bring the dangerous monsters back to life in order to subdue them. The McDonald's commercial perfectly illustrates this process: the resurrection of the monster followed by its transformation into a domestic pet that can be compelled to "play dead." The not-so-hidden message of this commercial might be summarized as follows: let's awaken and then subdue the totem animal of modern consumer desire (the *T. rex* as figure of rapacious, carnivorous appetite) with the totem *vegetable* of modernity, the french fry.⁵ Since the vast majority of the world's potatoes wind up as french fries, this commercial is, in a very real sense, just telling it like it is.

What about the sexual and culinary "consummation" taboos that were thought to accompany the traditional totem, the prohibitions on eating the totem animal and having incestuous relations with a member of the same clan? I do not see any direct analogy with the mandate for exogamy in the folkways surrounding the dinosaur, but I do see a link with the fundamental issue of procreation that underlies the incest taboo. Anxieties about proper sexual roles and reproductive potency are connected with stories of dinosaur extinction and resurrection. Dinosaurs may have died out because they stopped having babies, or because they laid eggs that became increasingly vulnerable to nest robbers. Spielberg's *Jurassic Park* is not only about the biogenetic cloning of dinosaurs, but also about the danger that humans will fail to reproduce. The relationship of Drs. Grant and Sattler, the male paleontologist and female paleobotanist, is shadowed by her anxiety over his dislike for children, and the story is largely about his learning how to care for children. One of the most interesting changes in the public image of the dinosaur since the 1960s has been its transformation from a solitary predator, the lone male hunter, into a "good mother" figure, guarding the nest and living in social groups. Spielberg's *The Lost World*, the sequel to *Jurassic Park*, is a veritable hymn in praise of dinosaur family values, portraying its T. rex couple as ferociously nurturing parents. The Field Museum dinosaur exhibition that opened in the spring of 1997 to coincide with the release of The Lost World was, not surprisingly, entitled "Dinosaur Families," building on the work of Montana paleontologist Jack Horner with the Maiasauras or "good mother lizard." Horner was the paleontological consultant to *Jurassic Park*.

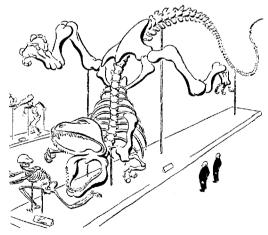
The other meaning of dinosaur "consummation," having to do with the totem meal, reappears in the form of symbolic inversion. If the traditional totem animal was not to be killed, or was to be killed and eaten only under special ritual conditions, the dinosaur is an animal that cannot be killed (being already dead), but must be brought back to life so that it can be consumed as public spectacle. More generally, the dinosaur itself is generally portrayed as a massive eating machine. It provides a spectacle of rapacious consumption that becomes more fascinating the closer the meal comes to including one of our own species. I will have more to say about this in connection with the festive meals surrounding the debuts of dinosaur exhibitions (see chapter 18, "The Victorian Dinosaur," and chapter 36, "Carnosaurs and Consumption").

Perhaps the most subtle contrast between the modern and traditional totems lies in the question of their status, their authority and legitimacy as social symbols. We might be tempted to say that the traditional totem is religious and magical, an object of superstitious reverence and animistic thinking, while the modern totem enjoys the authority and prestige of science. But

the contrast between science and religion is undermined by the tendency of science to play the role of a modern, secular religion, popularly misconceived as the final arbiter of truth and reality in all matters. This sort of "scientism" or scientific ideology needs to be distinguished, from the actual practice of science, which tends to be skeptical, provisional, and modest about the extent and durability of its claims. Traditional totems, similarly, are probably not as dogmatically religious or magical in their authority as early anthropologists thought. The notion of a radical distinction between the "savage" and "modern" mind is precisely what totemism tends to undermine. Traditional totem animals and plants may, in fact, have as much to do with ethnozoology and ethnobotany, traditional bodies of natural lore based in accumulated observations and experiments passed on over many generations, as with any magical or religious symbolism. As the rain forests disappear from our planet, we are learning too late that their human inhabitants possess a fund of "folk biology" that consists not of "superstition," but of refined and precise understandings of numerous exotic plants and animals, including their medicinal and poisonous properties.

The crucial point here is that ethnoscience and magic, just like modern science and that

Why do we want to bring dinosaurs back to life and, further, to imagine them devouring us? Traditional totem animals were the object of ritual sacrifices and spectacular feasts. The modern totem is brought back to life by means of a spectacle in which human sacrifice plays a central role. What is consumed in the dinosaur sacrifice is the spectacle of consumption itself. We love to watch them eat . . . us.



William Hayes in Collier's Weekly
"Adds a little life to the old place, don't you think?"

modern form of magical thinking known as "scientism," are woven together in the everyday life of human beings. There is no question that an essential part of the taboo (in the sense of aura or magic) of the dinosaur resides in its status as a scientific object, or more specifically, in its role as a monument to "Big Science," and even more aptly to what might be called "pure scientism." The dinosaur exemplifies pure science because it is useless and impractical, and yet it provides a highly visible speculative object in which areas of uncertainty and controversy are very broad. "The" dinosaur is so speculative, in fact, that (as we have seen) it may never have existed as a natural kind or a coherent scientific concept, but only as a name that survives because of its popular appeal. The attractiveness of the modern dinosaur totem is, like that of the traditional totem animal, marked by ambivalence. The dinosaur is monument and toy; monstrous and silly; pure, disinterested science, and vulgar, fraudulent commercialism.7 The taboos (in the sense of prohibitions) surrounding the dinosaur tend to manifest themselves, then, as efforts to deny or overcome this ambivalence by declaring the dinosaur to be a purely scientific object, a serious and real object untainted by magic, money, or "cultural" interest. Stephen Jay Gould's fear that the authentic dinosaur will be destroyed by the "deluge" of commerce and vulgar publicity is an expression of this taboo. The truth is that the dinosaur is never really separable from its popular and cultural status; the flood of publicity that seems to threaten its existence is the very thing that keeps it alive.

There is one conspicuous problem with the concept of totemism that needs to be faced at this point. Most anthropologists regard totemism as itself an obsolete notion, a relic of an earlier, Eurocentric, imperial phase of anthropology, when a radical division between the "savage" and the "civilized" mind was a basic assumption of all field research. Freud's absorption of totemism into the psychoanalytic paradigm simply extended this boundary to include children and neurotics among the "savages" who continue to hold the sort of animistic, superstitious beliefs on which totemism relies. In the early 1960s, however, Claude Lévi-Strauss declared that totemism was an illusion. It had been inflated, he argued, into an umbrella term for "primitive religion." Lévi-Strauss also pointed out that the totem had long been recognized as an incoherent scientific concept. As early as 1899, E. B. Tylor had noted that it had "been exaggerated out of proportion to its real theological magnitude." §

I trust that the parallels between the dinosaur and the totem are clear. Both are "scientific" concepts of dubious utility that have been inflated into master terms. Both involve a kind of back-projection into the "pre-history" of animal life and the human species, the one into the deep time of paleontology and geology, the other into the dreamtime of anthropology. Both were developed during the same imperial epoch of the sciences of nature and culture. Both involved the absorption of a diverse mass of evidence into a general concept of dubious coherence. Lévi-Strauss opened his critique of totemism with the following remark: "Totemism is like hysteria, in that once we are persuaded to doubt that it is possible arbitrarily to isolate certain phe-

nomena and to group them together as diagnostic signs of an illness, or of an objective institution, the symptoms themselves vanish or appear refractory to any unifying interpretation."

We might well ask, then, what is the point in using an obsolete concept from anthropology (the totem) to explain a possibly obsolete concept in paleontology (the dinosaur)? Can we use a dinosaur to catch a dinosaur? Or is this more like killing two birds with one stone? These questions are only made more vexing by the curious "afterlife" of both concepts. The dinosaur insists on living on as the marquee attraction of paleontology. Totemism continues to rear its head despite its authoritative dismissal by Lévi-Strauss. In fact, Lévi-Strauss himself rescued the concept by raising it to a higher level, linking it to an instinct for classification, an intellectual and ideological mapping of nature onto culture. There is a kind of uncanny parallel between the history of the dinosaurial and totemic concepts. Both enjoy an early flowering in the second half of the nineteenth century as key images and ideas in the development of paleontology and anthropology, respectively. Both fall into scientific disrepute and obsolescence in a middle period, the first half of the twentieth century, and enjoy a renewal in the sixties that has continued to the present day. The "dinosaur renaissance" inaugurated by John Ostrom and Robert Bakker is paralleled by a rebirth of totemism. As the anthropologist Roy Willis notes, "though officially pronounced dead nearly 30 years ago, totemism obstinately refuses to 'lie down.'"10 It survives in social science and anthropology, now as a way of breaking down (rather than securing) the opposition between the "savage" and "civilized" mind and of reopening questions about the ecological and biological dimensions of modern culture and society. Similarly, the dinosaur, which had also been "pronounced dead" as a concept as well as a living thing, has been reborn in a new form. It is no longer an automatic synonym for failure

and obsolescence, but has been refashioned as an evolutionary "success story" a 170-million-year saga of ruling reptiles that makes the prospects of human and mammalian world dominance look rather puny by comparison. We are almost tempted to say that the concepts of the totem and the dinosaur were made for each other, and that the dinosaur may well be not just a modernized version of the "savage" totem, but the first and last real totem in human history.

The relation between the dinosaur and the totem, finally, is not merely a matter of strikingly similar functions, or even of similar and parallel histories. The two concepts, and the real objects associated with them, constantly appear together in the concrete space of natural history exhibitions. Dinosaurs and totem poles are the marquee attractions of the two disciplinary "wings" of the natural history museum, the cultural and the biological. The McDonald's commercial stages their encounter quite explicitly: the dinosaur passes in review before the silent witness figures of the Indian totem poles; the shadow of the modern dinosaur skeleton passes over the faces of the traditional animal ancestors. Which object is more magical and superstitious, we must ask ourselves: the silent totem poles glaring out of the darkness, or the ghastly monster brought back to life by the miracle of digital animation?

What difference does it make to see the dinosaur as the totem animal of modernity? The crucial shift is in the one feature that the dinosaur does not share with traditional totems, and that is precisely the consciousness of its function as a totem.11 The disavowal of the "savage" or "mythical" character of the dinosaur is what is crucial to its workings as the *modern* totem. Many people who might be willing to grant that the dinosaur functions as a cultural symbol would still hold out for a distinctively modern and scientific (that is, nonsymbolic, nonimaginary, and purely "real") role for the terrible lizards. My claim, however, is that this holdout position is no longer tenable once one sees that the dinosaur is a totem, not just a symbol. In other words, scientific interest in the dinosaur is not to be seen as a separate enclave, protected from contamination by "cultural" issues (values, myths, superstitions, false—and true—beliefs). Science is also a cultural practice, a ritual activity with traditions, customs, and taboos. The realization that this is so should not prevent science from producing the kind of knowledge it is equipped to produce, nor should it prevent nonscientists from trusting the validity and usefulness of that knowledge.

The dinosaur, however, may be another matter. Insofar as the successful functioning of the dinosaur as totem animal (and as scientific object) depends upon the *disavowal* of its mythical status, the dinosaur might not survive exposure as a cult object. When a magical object depends upon mystification and disavowal, its exposure to the light of reason may transform it or cause it to disappear. Could it be possible that the current worldwide epidemic of dinomania is making its cult status undeniable? Could *Jurassic Park* actually be the last hurrah of the terrible lizards, a premonition that they could disappear a second time?

My prediction is that second extinction of the dinosaur will be a slow, gradual process, but one in which the final decade of the twentieth century will be seen as decisive. A similar fate befell the dragon at the end of the sixteenth century. Spenser's Faerie Queene was the "apex of medieval dragon lore," providing the richest narrative and iconographic representation yet known.12 Jurassic Park (both the novel and the film) may be the greatest dinosaur story ever told, but that doesn't mean it will have any worthy successors. It may have the effect of killing off the genre (except for parodies, sequels, and spin-offs) for a long time. (Crichton's own sequel is remarkably lame, even stooping to the theft of the title of an earlier dinosaur classic, Arthur Conan Doyle's The Lost World; Spielberg's sequel is a pale imitation of a pale imitation.) With the death of Spenser's dragon at the hands of the Redcrosse Knight (Saint George), as Jonathan Evans points out, "the dragon itself passes from English literature—or at least goes dormant. On the Continent, dragons remained active only as subspecies of serpents in encyclopedias and works of natural history."13