

REFLECTIONS

LOOKING BACKWARD

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John Taine was an important figure in science fiction when I began reading it seventy-odd years ago, though he is pretty much forgotten today. He was in reality Eric Temple Bell, a professor of Mathematics at the California Institute of Technology, who under his own name published books on mathematical and technical subjects, and under the Taine pseudonym wrote a dozen or so superb science fiction novels, mainly in the 1920s and 1930s. When I was about twelve I encountered one of them, *Before the Dawn*, which dated from 1934, and it had a tremendous impact on me.

The jacket of the first edition, which was published not by a regular publisher of fiction but by one that specialized in scientific textbooks, proclaimed it to be a novel of “TELEVISION IN TIME,” television then being something more in the province of science fiction than commercial reality. In a somewhat apologetic preface, the publishers declared, “When a house that has devoted its attention wholly to factual books and journals in the realm of research science or its applications publishes a romance, it is no more than reasonable to explain the phenomenon. Dr. Bell’s *Before the Dawn* is fiction, written for the love and fun of the thing, and to be read in the same spirit. It is a romance. But it is not mere unguided romancing. There is scientific background for everything he writes. . . . If there is no television in time as a matter of sober fact, it is also a matter of sober fact that the thing is possible; science has sown the seeds. The conjecture lies in guessing which way the seeds will grow.”

The commodity that *Before the Dawn* delivered was precisely that which I had been hungering for ever since my first glimpse, at the age of six or seven, of the mighty dinosaur skeletons in New York’s American Museum of Natural History. Here was a book telling of a plausibly described device that could focus a beam of light on some ancient object and bring forth images showing scenes imprinted on that object at some distant point in time. We are marched step by step through a series of tests that reveal a gigantic bloody claw, and then, from a shapeless lump of stone, a crudely executed statuette of a woman, carved far back in prehistory by a Mayan sculptor; and then, finally, a nest of reptile eggs out of which a small creature that is unmistakably a baby dinosaur emerges. As they gain more control of their instrument, the experimenters are able to bring forth a coherent narrative of dinosaur life, following the growth of their baby dinosaur, his development as a warrior, his battles, his migrations. And I, that not-quite-teenage reader, was held entranced, as though I myself were looking on these living dinosaurs as they moved across the television screen. Deeply shaken by what I had read, I put the book down with the feeling that this work of fiction had actually conveyed me, however briefly, into the actual Age of Reptiles.

Television reaching backward in time is, in fact, as impossible now as it was in 1934, and I will never see a living Brontosaurus or Tyrannosaurus. But I have before me on my desk—it takes up most of my desk, in fact—a huge book, a majestic mega-folio some fifteen inches high, that provides the next best thing: a collection of paintings and drawings done during the past 180 years or so that depict, with wildly varying degrees of accuracy, but always with tremendously stirring power, the way we think the Age of Dinosaurs really looked.

It’s called *Paleoart*—“paleoart” being a term referring to pictorial reconstructions of prehistoric times, to be distinguished from “Paleolithic art,” the art of the ancient humans themselves. The author of the well-informed, perceptive text is the art critic Zoë

Lescaze, and the publisher, who deserves some sort of medal for being able to offer so huge and magnificently illustrated a tome for an improbable price of one hundred dollars (less via the usual discount sellers), is the German-based firm of Taschen. It's not the first book of its sort by any means: a notable predecessor is Martin J.S. Rudwick's excellent *Scenes from Deep Time* (1992), and there are others, but none of them is remotely in the class of the Lescaze book for breathtaking pictorial splendor. In the absence of John Taine's reverse television set, it's as good as we will get.

The earliest illustration in the book is *Duria Antiquior*, done about 1830 by the British geologist Henry Thomas de la Beche. It is a lively thing indeed: Lescaze calls it "a work of violence and whimsy, a paean to primordial savagery rendered in delicate washes of blue, green, and rosy brown. Strange creatures attack at every angle, borne on fins, flippers, wings, and claws. A grinning, saucer-eyed ichthyosaur, part dolphin, part crocodile, sinks its teeth into the neck of a plesiosaur. Two pterosaurs bait one another on an aerial collision course while a third is yanked into the water by yet another maritime monster. . . . Of the thirty-four animals swarming the revolutionary little painting, roughly half are feasting on or falling prey to one another in a riot of reptilian appetites."

Even more violent, and not all whimsical, is John Martin's black-and-white etching from 1840, *The Sea Dragons as They Lived*, which serves as the superb end-papers for this splendid book. It is a terrifying thing, gruesome and macabre, in which great toothy monsters attack each other with wild vigor under bleak moonlight while an equally toothy pterodactyl, its batlike wings outspread, watches with what looks like grim amusement. Martin, and de la Beche before him, give us a nightmare world, merciless, appallingly cruel, a world of great vicious monsters red in fang and claw. And it is a world without *us*—a world populated entirely by bizarre and ferocious beasts.

There is a reason why the earliest examples of paleoart date only from the 1830s. Very little in the way of fossil animal remains had been found before then, and the very nature of those that had been was misunderstood.

Until the end of medieval times, it was the official Christian position that the Bible represented literal truth, and that God had created the heavens and the Earth and all living things within the space of six days. (Indeed, a seventeenth-century Irish archbishop added up all the events listed in the Bible and concluded that the world had been created in 4004 B.C. . . . at nine o'clock in the morning!) That somewhere along the way certain creatures had died out was against Scriptural belief: everything had been created at once, and all species were unchangeable and immortal.

But workers excavating the foundations of new buildings often found the bones of long-dead animals, and some of those bones seemed very strange indeed. Some were of great size; most bore no resemblance to the bones of any known animal. Ingenious explanations were offered: that the bones were stones that merely happened to look like bones, or that they were models of God's rejected works, or outlines of future creations. The best possible explanation was that they were the remains of creatures that had failed to get aboard Noah's ark: antediluvian beasts that God had allowed to perish in the Deluge.

That, at least, allowed the idea of extinction to win some acceptance. But not until the nineteenth century did it become clear that the Earth was millions or even billions of years old, and that many creatures had come and gone in that time, and that some of them had been reptiles of colossal size. One, unearthed in England in 1822, was dubbed just that, *Megalosaurus*, "giant lizard." William Buckland, who published an account of it two years later, estimated, working from just its skull and a thighbone, that it had been forty feet long and stood seven feet high. In 1825 came the discovery of an even bigger one, which the English naturalist Gideon Mantell suggested had been

as much as a hundred feet in length. That was on the basis of its teeth alone, which seemed similar to those of a living reptile, the iguana, but were immensely greater in size. He called his fossil *Iguanodon*, “Iguana tooth,” and imagined it—completely incorrectly, as we now know—as a great waddling lizard enormously larger than any modern kind.

And then the artists went to work, creating fantastic paintings and drawings of *Megalosaurus* and *Iguanodon* out of nothing more than skulls and teeth and thigh-bones. Soon flying lizards, the pterodactyls, were added to the group, and the long-necked aquatic plesiosaurs, and the massive seagoing ichthyosaurs. The Lescaze book gives us the whole horror show, a procession of gaudy dragons of a grand and glorious strangeness: the land-going reptiles (soon to be dubbed *dinosaurs*, “terrible lizards,” by the naturalist Richard Owen), are portrayed as squat frog-like things of vast size, popeyed and covered with warts, and the aquatic ones are frightful monsters bristling with huge teeth. (One famous *iguanodon* reconstruction showed a large rhinoceros-like horn on the animal’s nose, and not for many years was it realized that this was actually one of a pair of thumb-like spikes that *iguanodons* had on their front legs, close to their wrists.) They aroused furious passions. The fossil collector Thomas Hawkins called them in a book published in 1840, “Teeming spawn fit for the lowest Abyss of Chaos,” and Mark Twain, a generation later, wrote, “The less said of the pterodactyl the better. It was a spectacle, that beast! a mixture of buzzard and alligator, a sarcasm, an affront to all animated nature. . . .”

Dinosaurs have continued to exert tremendous fascination ever since the Victorian era. We know now that although they were reptiles, they were not lizards at all: many of them walked upright, something that the pelvic structure of lizards and other modern-day reptiles does not permit. And though the early paleontologists, working from mere fossil scraps, greatly overestimated the size of such creatures as *Megalosaurus* and *Iguanodon*, the excavations of the late nineteenth century brought forth fossils of truly gigantic size, giving us *Brontosaurus* and *Stegosaurus* and the formidable *Tyrannosaurus rex*.

They are all here in the marvelous Lescaze book—the weird and fantastic pioneering reconstructions, and the vivid ones from the early twentieth century by Charles R. Knight that so delighted me in my boyhood at the American Museum of Natural History, and the astounding *Age of Reptiles* fresco of Rudolph Zallinger at Yale, perhaps the most vivid glimpse of the Mesozoic we will have until John Taine’s time-traveling television camera becomes a reality. I don’t seriously expect that to happen; but in the meantime we have Zoë Lescaze’s dinosaur-sized *Paleoart*, and what a treasure it is!