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Theory's Pleasures: Literature, Science, Dinosaurs

James J. Paxson

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Litsci and SLS

On first sight, the coming together of literature and science might seem a barren ground for cultivating the pleasures of reading. The appearance of science studies in the last ten or fifteen years, incursions into literary studies from domains such as History of Science, Philosophy of Science, or the Society for the Sociological Study of Science (SSSS), and the advent of hypertechnicality in hypertext studies has alienated many traditional "theorists" as well as new belletrists, both groups charging that the science studies movement encourages and perpetuates the "scientism" that doomed the most technical incarnations of theory by the 1990s, semiotics and deconstruction preeminently.

In terms of my own personal narrative, however, it's been litsei, in the form of my connection to the Society for Literature and Science, or SLS (founded in 1985 as a splinter organization from the History of Science Society), that has absorbed many of the energies I'd once directed into my life in High Theory. Coming of academic age in the mid-1980s — and a scientist manqué from childhood — I was part of a generation still caught up in deconstruction's direct impact, as manifested particularly in the writings and influence of Paul de Man. My first book, published in 1994, was an unabashed de Manian paean to literary personification, one replete with narratological calculi and Greimasian diagrams.

But what comes after the wane — or transformation — of semiotics and deconstruction? My interest

in what I've elsewhere called de Man's "tropological descriptivism" suited well my emergent drive toward studies in the rhetoric of science — one of the burgeoning subfields in science studies and in litsci. If prosopopeia was "the master trope of poetic discourse" for de Man (48), I continued in my eagerness to try out deconstructive rhetorical poetics on the writings of Newton, Kepler, Roger Penrose, and many others; my signal entry into this area was an article I published a couple of years ago arguing that Newtonian calculus bespoke the emergent seventeenth-century semiotics of temporality that Benjamin and de Man saw as constitutive of "allegory" (Paxson, "Allegory" 49-51). In this manner, I vindicated my inner self as scientist wannabe, suturing the work of rhetorical theorists of early modern science (such as Fernand Hallyn's *Poetic Structure of the World*; see 253-80) with the trope-driven tactics of the de Manians. And the invention represented in this stage of my work, in this particular article, was, to be sure, a source of new delight for a theorist of growing jadedness. But that's one story — my story.

The rhetoric of science is only one aspect of the growing fields of science studies and litsci, and, at that, it's still one of the more minor aspects. The sociohistorical work in science studies made notorious by critics including Donna Haraway and Andrew Ross dominates our sense of this relatively new interdisciplinary enterprise. Haraway's latest book, which bears a title that seems to be an e-mail or webpage address, is unparalleled as a theoretical document on the absolutely transformed human body in a postmodern, post-industrial age. Ranging over speculative painting and popular art, the writings of genetic engineers, and pharmacological innovation, Haraway's *Modest_Witness* conducts a giant ideological and feminist critique of "technoscience," the epistemic language of our entire culture (see 1-16).

Regarding both avenues in science studies — rhetoric of science and sociohistorical or gender or ideological critique — one can indeed sense a new sort of pleasure energizing scholarly work. Perhaps it's the interdisciplinarity itself that feels liberating and thus immensely pleasurable; or perhaps, concerning science studies' ideological critique, it's the sense of empowerment gathered from the David-and-Goliath relationship between institutionally marginalized literary studies people and institutionally centralized science workers. (Andrew Ross serves, no doubt, as the leading cultural Jeremiah against technoscience's hubris today; see Ross 1-15.) Writing and reading science studies or litsci has produced a headiness not quite felt since the onset of the theory revolution in the American academy in the 70s and early 80s.

But let me not suggest that all the domains or aspects of science studies are interactive, parallel, or homogeneous — or heady. Ross's project strikes me as dour; Haraway's as *jouissant*, in-your-face, though the more "scientifically" informed and rigorous of the two. "Literature and Science," the aspect I'm most involved in, is probably the most amorphous or heterogenous area within the larger domain of science studies. Its label bespeaks its amorphousness, but also the energy and frequent unpredictability — like the complexity thematics culled by many an SLS scholar from Pynchonesque literature — that members of SLS have found refreshing and sustaining. Its annual conference — which I just organized and ran at the University of Florida (5-8 November 1998; see

http://web.sls.ufl.edu) — proffers papers on the rhetoric of science, themes in science fiction, political activism concerning scientific work, the imagery and semiotics of medicine and the body, the fruits of contemporary philosophy and aesthetics in science writings (with special emphasis on epistemocritics such as Gilles Deleuze), and the impact of computers, hypertext, and the internet on scientific, literary, and artistic work. Plenary talks have covered detective fiction, the performativity of gynecology, quantum brain dynamics, and reptilian thinking. (This year's plenary platform featured Sander Gilman, Terri Kapsalis, Gordon Globus, and W. J. T. Mitchell — more about the last in a moment,) And this is a curtailed catalogue. SLS meetings, as well as the contents of the society's journal Configurations (published by Johns Hopkins University Press), provide a much broader tapestry than what's offered in the positivistically dominated discourses of the sociological study of science or even of the history of science proper. Admittedly, the mix of topics, approaches, and emphases in SLS or in Configurations might put off traditional historians or philosophers of science, but the energy and amorphism of the group and its journal speak, I think, to the deepest yearnings we all had about theory at its advent. Such work also maintains far more rigor than much of the literary neobelletrism that has arrived to fill the presumed vacuum left after the departure of High Theory. For the remainder of this essay, I'd like to zero in on one of the SLS 1998 plenary speakers just mentioned, the one who gave the closing keynote talk on 8 November at the Florida Museum of Natural History (which is, incidentally, the world's largest natural history museum on a university campus). Roughly in the manner of a book reviewer, I'll talk about his newest completed project in order to foreground, perhaps to emblematize, what I think is most vital and exuberant in science studies today. The book I speak of stands as a serious entry in cultural studies; yet it exudes the pleasure and joy of the world of children, because it is literally about children and science culture.

The Last Dinosaur Book

In his newest project, The Last Dinosaur Book: The Life and Times of a Cultural Icon, W. J. T. Mitchell provides a sequel to his impressive Picture Theory, a theoretical magnum opus of its own that capsulized Mitchell's ongoing work on the "iconological" status of verbal and visual texts in Western culture. Mitchell has always been interested in the cultural interchangeability of verbal and visual artifacts; his basic position is that literary texts as well as works of popular or hieratic art are culturally constructed before they're reified as documents or museum objects. My summary is, admittedly, a bald and not at all sumptuous description of his great contribution to theory (a contribution more subtly though pervasively realized through his work as editor of Critical Inquiry), but it sums up an attitude that, by its nature, must seek to go beyond the works of artist Robert Morris (Picture Theory 241-79) to cultural images that are far more fundamental, pervasive, significant, beloved, idolized, and yet "neglected" in our cultural thinking. The Last Dinosaur Book achieves this in spades. With the exception of the work of Stephen Jay Gould, no other cultural studies pro-

ject brings before us with such perspicacity a subject that's simultaneously endearing, amusing, terrifying, mystifying, and, well, popular, beneath the lenses of contemporary semiological and ideological analysis. It is another academic magnum opus for Mitchell — a vindication for him of theory and cultural studies and of a childhood love affair — and one of the most pleasurable, fun books any of us might wish to read this year.

The Last Dinosaur Book, which is illustrated lavishly (not unlike those great popularizations of science such as Carl Sagan's Cosmos or James Burke's Connections and The Day the Universe Changed) and sports lots of diagrams, longish picture blurbs (in National Geographic fashion), and charts, starts from the premise that the dinosaur is an *imaginary* object. Nonsense! scientists bark, since they possess the fossils, museum reconstructions, and careers built upon such hard reality to prove that dinosaurs "existed." "Existence" and realness are up for grabs in postmodern epistemology, however, and dinosaurs indeed do not have the realness of dogs or horses. They are objects of pure theory, Mitchell contends, that have transcended theoretical reconstruction in the minds and hearts not just of a professional scientific community but of a gigantic, consumerist general public. What if dinosaurs turn out, Mitchell queries again and again, to be like other "scientific" will-o'-the-wisps? Yes, we have the bones, but do not dinosaurs ideologically or semiotically function in our cultural spaces much as aether, phlogiston, or hysteria once did? Here's the nub of Mitchell's whole project: we have constructed the "dinosaur" in part out of sheer romantic desire for a past and, in part out of "scientific knowledge" that is itself driven by desires, tropes, rituals, and large though invisible cultural presumptions. The many chapters that constitute Mitchell's glorious book detail such cultural assumptions — scientific, popular, and commercial — in vivid, exuberant detail.

Much of the early portions of the book are about the nineteenth-century establishment of the dinosaur as a piece of scientific currency, with a focus on the competitive museum-building and so-called "bone wars" that characterized the formation of great paleontological collections. Yet Mitchell's historical account is cross-fertilized by nineteenth-century anthropological self-awareness: in particular, he culls the anthropological theories of Durkheim and others to view "scientific" paleontology and dinosaur studies as forms of totemism. The Lakota might have had the wolf, the Iroquois the bear or beaver; but if there's a totemic animal suited to modern American culture, it's the dinosaur (77-83). This strand of cultural semiosis finds direct expression, Mitchell contends, in a contemporary TV commercial that shows a reanimated T. Rex skeleton in some large metropolitan natural history museum casting its shadow among a collection of Native American totem poles before approaching a museum guard only to beg for some McDonald's french fries! (74).

Mitchell's attention to cultural juxtapositions such as this reveals his book's immersion in the forces of commercial as well as popular culture. His history of the dinosaur is not just a scientific history but a history of how the dinosaur has been used to promote or frame industry and technology, one in which the dinosaur does nothing less than reflect the socioeconomic means of production of capitalist culture. Early concept drawings of brontosaurus from the WWI

era showed it standing against New York skyscrapers for scale (158-60); later depictions, such as the famous murals produced by Rudolph Zallinger in the 1940s, display green dinosaurs, icons that, as Mitchell shrewdly declares, signify not just the green wildness of jungles and the like but the customary "industrial green" of manufacturing and construction machinery (giant presses, assembly lines, cranes, and the like). Such saurian semiotics take us directly to the commercial uses to which the dinosaur was put in the well-known Sinclair Oil ads that fueled the American imagination in the 1950s and 1960s, ranging from illustrations on oil cans to World's Fair panorama installations (168). This mega-industrial iconography itself eventually gives way to the current iconography of the dinosaur: the post-Steven Spielberg dinosaur, which is not lumbering or incompetent (and thus deserving of Darwinian selection-out) but intelligent, adaptable, lean, mean, rapid — in short, an externalization of the 1990s Bush-era corporatist ideology that conquered America by forcing older ways of doing business into extinction (204-5, 215). If there's an enduring icon for this neo-dinosaur of the 1990s, it's the velociraptor that prowls the climax of Spielberg's Jurassic Park, bathed in the projected iconography of a genetic formula, a sequenced DNA code contrived from thousands of nucleotide strings. The dinosaur has thus gone from skyscraper analog to automotive spiritus to postmodern "biocybernaut."

The materials Mitchell gathers and analyzes make for the sort of entertaining, pleasurable play characteristic of the best sort of cultural studies work published today. Thomas Jefferson's writings on mammoth bones, accounts of the earliest saurian reconstructions for the Crystal Palace exhibits of the 1850s (which yielded weirdly bloated mammalian dinosaurs), cartoons and comics from 1909's Gertie the Dinosaur — the first animated cartoon in history — to regular entries in Calvin and Hobbes, blockbuster films (Willis O'Brien's 1933 King Kong and Spielberg's dino-films dominate here), the brilliant dino-scifi of Italo Calvino or Karel Capek, mouth-watering paintings by Zallinger and, more recently, by the "chromatically correct" Mark Hallett, evolutionistic models of the brain (Carl Sagan's The Dragons of Eden), and authoritative testimony by our foremost paleontologists from Gould to Paul Cereno — all of these medial forms, documents, and icons accumulate in order to force us to see that the dinosaur, whom we'd taken for granted as an object of speculation, is us, is in us. So, like a good poststructural iconologist writing with respect for science's rhetorical master tropes, Mitchell advertises his centrally synthetic pose in a revealing chiasmus: "We in the dinosaur; the dinosaur in us." Industrial or cybertextual-corporatist, we children of the twentieth century project ourselves into our images of the dinosaur, making them versions of us. A range of cultural self-inspections is projected into or onto the dinosaur: disenchanted (we're on the verge of dissipation or extinction), empowered (our industry and productivity are on the upswing), juvenile (Barney-lovers all, we defenseless kids are by turns big and fierce like T. Rex or gentle and cuddly like any big dumb teddy bear), and so forth. Moreover, the dinosaur is structurally in us. Enter, for instance, Carl Sagan's multi-tiered description of the human brain in The Dragons of Eden (see Last Dinosaur 202). This now nearly discredited model of encephalic structure and function posits a "reptilian brain" or r-complex at the human brain stem, a surrounding or superordinate layer called the limbic system or "mammalian brain," and, above or around that layer, the truly human neo-cortex, seat of reasoning, language, abstraction, and so on. Sagan's model has been supplanted of late by hemispheral theory (right versus left brain function), yet it continues to grip us owing not just to its Darwinian authorization (Sagan's layers correspond to phylogenetic stages of the developing human brain) but to its trope of vertical hierarchy. Sagan himself speculated freely that Freud's own three-tiered model of the mind (id/ego/superego) might just correspond to the structures of the diachronically vertical evolutionary brain (see-Last Dinosaur 203). Iconographically and semiotically, nonetheless, dinosaurs do "live" in us just as we are "alive" in them. The process is one of mutual figuration, as Mitchell deftly demonstrates again and again.

I mentioned Mitchell's attention to dinosaurs and the culture of juvenilia. From lively Dino of The Flintstones to the insipid Barney, dinosaurs endear themselves to our children (and to the children in us) because they empower and estrange. Perhaps the most rewarding chapters in The Last Dinosaur Book are those that intermittently take up the requisite pretending by children that they're T. Rex or apatosaurus or triceratops — strong, big, fierce, indestructible, yet sad and melancholy, as all little children in our big world perforce must be. But more important, dinosaurs furnish virtually all children with their first specialized or technical language, with something they can "conjure with," as Mitchell puts it. In an age of post-classical education, knowledge of dinosaurs oddly allows children to outshine their elders and intellectual betters in Latin Dinosaurs signify joy and power and specialized knowledge, though this fact has escaped all observers before Mitchell, with the exception of Stephen Jay Gould. Children seem to acquire science through dinosaurs; they obsess about dinosaurs; they come to inhabit a world that is a hybrid of the world of science and the world of pure romance, pure fantasy adventure. The pleasure of the dinosaur is the pleasure of having obtained currency in two, normally exclusive domains: that of pure seriousness, achievement, formalism, and that of pure play, retreat, indulgence, letting go.

Because he understands this so well, Mitchell has given us a successful book on all counts. His concluding theoretical position on our own identity as modern Americans, as humans, and as post-children reveals that his work, particularly in the context of science studies today, provides nothing less than a mise en abyme, if you will, of the pleasures I've found constitutive of litsci. The pleasures of science, culture, and literature as I addressed them earlier in this essay are conjoined in Mitchell's analysis of the cultural effect of the dinosaur. A cultural history of the dinosaur, I think, explains just what the literature and science movement is all about, including how it is like and unlike its consanguine interdisciplinary movements in science studies. In our age of "post-theory," as it's been called, the inventive and sometimes maverick combination of science, literature, and technology has given scholars in both the humanities and the sciences a kind of metalanguage with which to conjure. I think that litsci helps restore jaded academics to the zeal with which we originally entered the grownup world of letters, science, method, and achievement. (It thus enacts an institutional desire not unlike that of the neobelletrists and neoimpressionists of the late 1990s — Frank Lentricchia et al. — who wish to take us back to another institutional, pre-theorized childhood, that of beloved literature.) I don't say this in order to prioritize a psychoanalytical resolution of the whole picture. Rather, I'm applying Mitchell's own insights into the empowering effects of a semiotic construct to the theoretical subfield (litsci) that nurtures and supports his work. In the cultural work of literature and science, there's indeed nothing at all like *The Last Dinosaur Book*, a text invested in bold juxtapositions, interdisciplinary freedom, theoretical richness and rigor, and, above all, play and pleasure.

The Last Dinosaur Book is indeed a "crossover" book intended for audiences wider than academia; as such, it joins the work of writers such as Michael Bérubé. It celebrates a rare moment in academic publication, however: it reaches both academic and general readers while it stages the interdisciplinary pleasure of the literature and science movement itself, as well as the pleasure of the child's encounter with grown-up language and with otherworldly icons and/or totems. If the literature and science movement is to survive and prosper, if it is not to go the way of the dinosaur (in the old, pejorative sense), it must not hunker down in science warfare with the Alan Sokals and Jean Bricmonts who launch assaults from the world of "real science." It must instead keep cultivating the Tom Mitchells who are not just writing cultural histories of America and its sciences but mapping the field of theory in toto.

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