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## Good and Bad Reductionism: Acknowledging the Power of Culture

As someone who has written at length on the need for vertical integration or consilience between the natural sciences and the humanities, I am obviously in agreement with the majority of Carroll's argument. I particularly think it is important to recognize, as Carroll notes, that any work in academia worth its salt is "reductive" in some respect—that is, seeks to explain a particular phenomenon in terms of more basic, general principles. The common tendency in the humanities to use "reductionistic" as a peremptory term of dismissal is therefore entirely unjustified. I do think, however, that it is important to distinguish between "good" and "bad" forms of reductionism, and to make it clear that consilience, properly understood, involves an ongoing respect for the relative autonomy of the levels of explanation studied by the humanities. I do not think that this is something with which Carroll would disagree, but at points in his essay his rhetoric suggests otherwise. If those of us who support evolutionary approaches to the humanities wish to win broader acceptance among our colleagues, it is incumbent upon us to make it clear that consilience does not entail—as many humanists fear it does—collapsing humanities departments into biology departments, denying the significance of human-level truths, or reducing human culture to a mechanistically-expressed phenotypic trait.

Carroll notes the existence of a group of scholars interested in cognitive approaches to literature who nonetheless seem determined to distance themselves from literary Darwinism. This is, on the face of it, rather puzzling: the human cognitive system is a product of evolution, so it is hard to imagine why someone interested in human cognition would have an allergy to evolutionary theory. No doubt some of this leering results from a visceral aversion liberal intellectuals tend to exhibit toward any mention of Darwinism or evolution: in my experience, the leap from "Darwinism" to "Nazism" or "eugenics" is an almost Pavlovian response for most humanists, and it takes some work to overcome this indefensible and intellectually lazy response. In addition, as I have argued elsewhere, a

powerful source of resistance to applying evolutionary theory to human beings is our innate mind-body dualism (a product of our Theory of Mind): we are comfortable talking about non-human animal behavior or “merely physical” aspects of human beings (our organs, our limbs) in evolutionary terms, but the mind and its products strike us as being qualitatively different in some way. In this sense, it could be said that we are built by evolution to have trouble believing in evolution as a universal explanatory framework. The combination of our innate resistance to physicalism and the historically-conditioned kneejerk reaction against Darwin means that any attempt to advance literary Darwinism is going to be an uphill battle.

One way to make progress in this battle is to make it clear that vertically integration does *not* entail eliminative or “greedy” reductionism, whereby the heuristic importance and relative autonomy of higher-level entities is denied. A glance at the natural sciences allows us to get a good grasp of what “good” reductionism looks like. Neuroscience is dependent upon organic chemistry, which in turn is dependent upon physical chemistry, which in turn is dependent on physics. The nature of this dependence is such that lower levels of explanation exert an important constraining function on the higher levels. A hypothesis in organic chemistry that violates everything that we think we know about physical chemistry is likely to be rejected out of hand; if not, it would require a complete rethinking of physical chemistry. The argument behind vertical integration is that the levels of explanation studies by the humanities need to be plugged into their proper place at the top of this hierarchy of explanation, and be subjected to the same constraint of overall “consilience.” At the same time, this does not entail the disappearance of human-level disciplines, or their absorption into lower levels, because as we move up the explanatory chain we witness the emergence of new heuristic entities, which possess their own novel organizational principles. Organic chemistry has not been replaced by quantum physics because organic molecules have a set of emergent properties, and are governed by a set of emergent principles, that are simply not predictable or tractable from the perspective of quantum physics. This is why biology and chemistry departments continue to enjoy autonomy from physics departments, and why humanities departments are not going anywhere even if the academy were to fully embrace vertical integration.

At many points in his essay, this seems to be what Carroll is arguing with regard to evolutionary psychology and the study of literature: theories that we propose about reader response or the functioning of particular rhetorical forms need to be informed and constrained by what we know about how the human mind

works. “Trying to isolate literary study from psychological and historical generalizations is a sophisticated maneuver,” he observes, “that will not stand against the simplest appeal to factual evidence.” He rightly points out that the key flaw common to most of the currently dominant approaches to literature is that they “emphasize the exclusively cultural character of symbolic constructs,” and therefore create an intellectual environment in which natural scientific knowledge about human nature or cognition “can exercise no constraining force on culture.” One immediate and important affect of adopting a vertically-integrated stance to the humanities would be the elimination of a variety of widely-believed but empirically indefensible views about human cognition and culture—such as the “blank slate” view of human nature or the ideal of disembodied reason—and Carroll notes that this is an important “negative” service to be performed by literary Darwinism: “If evolutionary literary study did nothing more than clear away...distorting theoretical impedimenta...[it] would have performed a valuable service.” In addition, of course, there is also an important positive dimension: once literature is placed in its proper relationship to lower levels of explanation, such as evolutionary theory or cognitive science, a plethora of new hypotheses about literature immediately suggest themselves, accompanied by a powerful new explanatory framework and set of vocabulary.

So far, so good. My one concern about Carroll’s presentation of his position, however, is that one sometimes gets the sense that he is advocating the stronger, “biology subsumes all” position that humanists rightly want nothing to do with. Examples of Carroll’s sometimes troubling rhetoric include his characterization of literary Darwinism’s goal as “sweep[ing] past inclusion” in traditional institutional structures and “subsum[ing] all other possible approaches to literary study,” as well as his metaphor of literary Darwinism as a city core “swallow[ing] up” outlying enclaves in an inexorable advance. Jettisoning strong forms of social constructivism would indeed mark an important “shift” in our “frame of interpretation,” and bringing evolutionary theory and cognitive science to bear on literary studies in an explicit and systematic way would mark a real revolution in literary studies methodology and rhetoric. However, because fields such as literary studies tend to concern themselves overwhelmingly with emergent structures and idiosyncratic cultural histories, it is not clear to me that adopting a vertically-integrated perspective would have such a global and dramatic effect on the day-to-day work of most literary scholars. This is particularly the case when one recognizes, as Carroll does, that many literary scholars in fact implicitly share many of the assumptions of a vertically-integrated approach—such as important

commonalities in human nature, universality in narrative forms, etc.—even if they deny these commonalities in their rhetorical and theoretical posturing.

I have a colleague whose research interest focuses on the intersection of poetics and political patronage, as manifested in the production of official poetry anthologies. She often asks me why someone like her would care about vertical integration. One answer is that adopting a vertically-integrated perspective—for instance, learning something about evolutionary psychology and cognitive science and taking it seriously in her work—might very well, as Carroll notes, involve an important shift in her overall interpretative framework. The typical Foucaultian framework we all imbibed in graduate school encourages her to see her work as documenting the manner in which aesthetics is primarily driven by politics and power, with “beauty” revealed as no more than culturally-specific construction. An evolutionary framework might lead her to focus more on coalition-formation, prosociality, and aesthetic forms as in-group markers—an important advance over Foucault because it would allow her to plug her work into a much broader and more powerful explanatory framework, one that also has the wonderful virtue of being empirically plausible.

However, it is also important to acknowledge that 90% of her work is concerned with the specifics of how *this* particular person commissioned *this* particular poetry anthology, and how this historical event influenced some very culturally- and linguistically-specific forms of poetic expression. Evolutionary theory does not speak directly to these issues. Carroll rightly criticizes Eugene Goodheart and the common move to metaphysical dualism that argues that, while science studies regularities of dumb nature, the humanities study the ontologically unique and unpredictable movements of the mysterious human *Geist*. If the humanities were only concerned with uniqueness they would not represent academic disciplines—literary study would be no more than an exercise in stamp collecting. Nevertheless, the task of explaining and understanding literature often operates at a such a high level of emergent specificity that evolutionary psychology is only marginally more relevant than quantum mechanics, and this is why traditional forms of literary study will continue to function more or less autonomously even within a vertically-integrated framework. Familiarity with the literature on coalition-formation and prosociality is not going to tell my colleague anything about the specific aesthetic choices made by competing factions of poets, and this is one of the central questions that she is interested in answering. Again, I don't think that Carroll would necessarily disagree with any of this, but it would behoove him to make it clearer to his colleagues that, while consilience would

provide an important new explanatory framework within which literary studies could operate, it does not necessarily entail radical alterations in one's everyday methodology, vocabulary or focus of interest. Literary scholars do not need to stop talking about history and genre, or confine themselves only to terms and concepts drawn from evolutionary psychology.

A related point is that Carroll also at times gives the impression that he views culture as a more-or-less direct expression of innate human psychological mechanisms—à la E.O. Wilson's (in)famous metaphor of the human brain as “an exposed negative waiting to be dipped in developer fluid” (*Sociobiology* 156)—rather than a potentially autonomous force in its own right. It is true that, as Carroll notes, “culture translates human nature in social norms and shared imaginative structures,” but it is also important to recognize that culture regularly *transforms* human nature and cognition in important ways. One doesn't have to be a wild-eyed social constructivist to acknowledge this point—much of the most interesting recent work in evolutionary psychology and embodied cognition has focused on the *co*-evolution of human cognition and culture—but the overall thrust of Carroll's argument leaves one with the impression that *all* significant structure comes from innate human nature, and that cultural variation is a mere epiphenomenon. I fear that one unfortunate effect of many recent attempts to bring a robust conception of human nature back to the fore is the creation—perhaps often unintended—of a false dichotomy between nature and nurture: that the only alternatives are embracing full-blown social constructivism or believing in a single, universal human nature that merely gets “translated” into various cultures. In fact, a vertically-integrated, embodied approach to human culture—one fundamentally informed by evolutionary theory and the latest discoveries in cognitive science—can take us beyond such dichotomies. The work of scholars such as Pete Richardson and Rob Boyd has shown how cultural forms themselves are subject to a kind of evolution, constrained by the structures of human cognition but also exerting their own independent force. In fact, cultural evolution may have driven human genetic evolution, favoring our big brains, linguistic skills, and ultra-sociality, the three hallmarks of our species. Similarly, conceptual metaphor and blending theory give us very specific models for understanding how universal, innate human cognitive patterns can get projected into new domains or combined to generate entirely novel, emergent structures. Human cognitive fluidity, ratcheted up over time by cultural entrenchment, can shape human emotions, desires and perception in quite novel and idiosyncratic ways—from the subtle

Japanese aesthetic sentiment of *mono no aware* (lit. “the sorrow of things”) to the sort of “cultivated needs” explored in depth by theorists such as Pierre Bourdieu.

Carroll does not explicitly deny the importance of such work, and does make passing reference to cognitive fluidity and cognitive linguistics. More of an acknowledgement of how culture can play an active role in reshaping human nature, however, would go a long way toward winning over skeptical humanists—for whom the dazzling variety of various human cultures and the nuances of specific cultural products are the most salient features of human beings—and help to bring the literary Darwinians in from the jungles of their guerilla war.