Saving the humanities from evolutionary and neuroscientific imperialism

Review of:


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The interchange between the humanities (and art history/theory specifically) and the biological as well as the mind and brain sciences has intensified over the past two decades, predictably generating a vast array of reactions, ranging from naïve and uncritical enthusiasm to harsh criticism and dismissal. A critical, learned, and unbiased examination of the value of scientific approaches to understanding art conducted from the vantage point of the humanities is thus much in need. The opening pages of Matthew Rampley’s book *The Seductions of Darwin*, subtitled *Art, Evolution, Neuroscience*, raise high expectations, as the reader is informed that the book is the product of a belief in the need for such critical engagement, and is sympathetic to calls for a greater dialogue between art and science (viii-ix). It is all the more regrettable then that the book fails to deliver on this promise, as I discuss below. The content of this relatively slim volume seems ill-conceived; in addition to an introduction and a conclusion, it is stitched together out of three thematically disparate parts: two chapters, amounting to 55 printed pages, deal principally with evolutionary theories and art/aesthetics, one chapter, just over 30 pages, examines the relevance of neuroaesthetics for the study of art, and the final chapter turns to Niklas Luhmann’s system theory and its application to art. There is little logic in putting these largely disparate discourses together, especially given that evolutionary approaches to art and those of cognitive neuroscience cannot be adequately discussed – in the manner explicitly promised in the Preface and the Introduction – within such a limited space. More problematically, the book confuses the reader right from the start. On the one hand, the narrative is framed by important questions to be explored – for example, ‘How might theories of evolution and the brain enrich our understanding of art and aesthetic experience and what are their limitations?’ (ix); ‘How can knowledge of the general and universal laws of the biological sciences inform our engagement with the images and artefacts that spur our interest in art?’ (137). These are indeed highly relevant issues, which need to be addressed from the perspective of art history and theory. Unfortunately, instead of attempting to critically analyse them first, before reaching conclusions, the text immediately embarks on a tirade against biological approaches. A reader expecting a critical analysis is presented instead with a highly opinionated manifesto directed against the straw men that Rampley has erected: those ‘proselytizers of consilience’ between science and the humanities (15) who are allegedly in pursuit of a
misconceived project to ‘naturalise’ the humanities. Ironically, the confirmation bias that the author contends compromises evolutionary approaches to art (138) aptly describes the strategy he has adopted himself in this book.

The least problematic chapter is the one devoted to system theory’s relevance for art, in which Rampley provides a useful summary of Niklas Luhmann’s theory, but questions its value for art history and concludes that it mostly offers just an additional layer of theoretical terminology, which has done little, if anything, to alter the disciplinary practice (130). This is a plausible, yet hardly surprising finding, given the decidedly lukewarm reception Luhmann’s work has received in art history and the little impact it has had on it. The brunt of the author’s criticism, however, is borne by evolutionary theories and neuroaesthetics. In fact, after reading the book art historians and theorists (or any humanist reader for that matter) might find themselves immediately reaching for Valium, because according to Rampley the humanities are in mortal danger. He warns that calls for cross-disciplinary dialogue have been often motivated by a ‘desire for intellectual imperialism’ (4), arguing that the exponents of consilience seek to achieve not an open conversation (6), but rather ‘the wholesale subordination of the humanities to a scientific paradigm’ (13), and (some of them at least) are engaging in ‘intellectual oppression rather than debate’ (137).

Still, an alert reader cannot help but wonder what exactly is he arguing and warning against: is it biological (mind-brain) theories? But why make so much fuss about a kind of theorising, that, according to his own self-confident diagnosis, is failed (105), that is nothing more than ‘plausible storytelling’ (59) and at best offers an added layer of discourse that is peripheral to concerns of art history (99, 105)? Why so much anxiety over a ‘paper tiger’? Or is the real target – as some of his statements suggest – not theorising, per se but rather the use of an empirical and experimental approach to the study of art and cultural phenomena? If this is the case, it is deeply troubling that there is no acknowledgement that experimental and empirical approaches have a long tradition in art theory and that an interest in the mind pervaded the work of many seminal figures of early 20th-century art theory, including ones about whom Rampley has so eloquently written (most notably Aby Warburg). But there is not the slightest attempt to indicate how the current interdisciplinary dynamics might productively follow and extend art history’s early 20th-century engagements with both empirical aesthetics and psychology.

Chapters two and three examine neo-Darwinian evolutionary approaches to art and aesthetics and their significance for art history. The author’s main points echo well-established critical positions on the evolutionist perspective on art. Ellen Dissanayake, one of the scholars whose work is scrutinised, summed it up well a decade ago when she wrote that ‘Most contemporary evolutionists lack this new and broader understanding of art. In this respect, their assumptions about art and art theory are as outdated and beside-the-point as are most art theorists’ assumptions about evolutionary theory.’¹ The basic problem of Rampley’s rhetoric

is his insistent tendency to draw overgeneralisations from isolated instances of exaggerated claims or, as he calls them, those ‘grotesquely simplistic and laughable assertions’ (138), portraying them as representative of current positions. While I cannot claim a detailed knowledge of the field of evolutionary theories, I see little evidence of anyone seriously claiming that biological sciences provide a superior interpretative approach to art (9), let alone that ‘the evolutionary approach can or should displace traditional research in art history’ (71) in current writing in this area. Most of the author’s critical points – such as on the limits of adaptationalist paradigms of art and aesthetics or on the theory of memes – are generally accepted and elicit little controversy, and while he usefully summarises and at places expands on existing criticism, he does not offer any new insights and the conclusions he presents at times verge on the banal. While it is indeed true that the mechanisms of biological and cultural inheritance differ in important ways (52), this does not in itself invalidate the significance of applying evolutionary approaches to culture and some of the most inspiring work in this area has focused precisely on the intricacies of the mutual interfacing of the biological and the cultural.

Although the book introduces and discusses some recent theories, such as niche construction or Michael Tomasello’s work on the evolution of human cognition, there is no mention of the models and theories that seem to offer the greatest explanatory potential and value for art history – the very ones that embrace more sophisticated conceptions of the relationship between biological and cultural evolution and deal explicitly with the problems of cultural transmission and variability. These are the theories that have the potential to advance our understanding of how culture interacts with its biological basis on different timescales - from the evolutionary to the historical (the true domain of art historians) to the psychological and the neuronal timescale. To cite the most obvious example, there is cognitive anthropologist Dan Sperber’s model of culture as an epidemiological phenomenon, with its key notion of social and cultural cognitive causal chains as concatenations of the preservative processes of memory, imitation, and communication, and its inquiry into how these chains can be productively applied to image-making - a theoretical model that is highly inspiring for art historians.2 Another one would be recent work on cultural affordances as a way of understanding how culture and context interact with human biology to shape human behaviour, cognition, and experience and how shared expectations are embodied at various levels (in brain networks, cultural artefacts, and constructed environments) and are enacted in ‘regimes’ of shared attention.3

In what is perhaps the most rewarding and least biased part of the book, the author delves into the applications of evolutionary models to empirical studies of the diffusion, transmission, and variability of material culture and (citing studies by Tehrani, Collard and Shennan) admits that such studies raise important questions

about the nature of cultural transmission. Many more recent examples of analysing material culture from an evolutionary perspective, and their links to the putative concerns of art historians could have been discussed. That kind of detailed research, rather than a few overblown claims about (mostly not recent) books, would provide a true indication of the implications of evolutionary theories for the study of art. There is no space in this review to step in for Rampley and do the job that he should have done - namely to outline the potential of these recent models for art theory and history and indeed to point out the ways in which ‘knowledge of the general and universal laws of the biological sciences inform our engagement with the images and artifacts that spur our interest in art’ – a question that, he asserts, the various evolutionary or neuroscience models analysed in the book are unable to answer and their advocates are even unaware of its relevance (137).

On the crucial issue of the value of evolutionary approaches to the study of art, Rampley contradicts himself. In the opening section, he points out that biological and evolutionary (neo-Darwinian) approaches aim to explain ‘some of the most fundamental questions to do with art’ (8), only to assert later that ‘…the evolutionary model does not address the kinds of questions that are of interest to scholars of the humanities in general and, more specifically, of art history’ (71) and these accounts often answer sets of questions that ‘are of little use to most researchers in art history in particular and the humanities in general’ (72). Does he consider such issues as the nature of artistic creativity, the character and purpose of aesthetic experience, the process of artistic transmission, or art’s origins to be marginal for art history and theory? Arguably, art history in both its traditional and its many ‘new’ incarnations has for the most part tended to sidestep or ignore these issues. But given that sociobiologists, evolutionary psychologists, human behavioural ecologists, cultural anthropologists, and neuroscientists are found unfit by the author to contribute anything substantial to these topics, one wonders how he envisages they are to be productively tackled or even whose discipline they are a legitimate concern of.

The problems evident in Rampley’s treatment of evolutionary approaches are magnified in the chapter on neuroaesthetics, which constitutes the weakest part of the book. The author states that his main concern is with neuroarthistory’s explanatory value (12), or even that the focus is on the significance of various theories of mind for art history (74). That is a tall order. In between, he articulates some more specific questions and problems: ‘How might theories of evolution and the brain enrich our understanding of art and aesthetic experience and what are their limitations?’ (ix). Or ‘what would it mean for the results of functional magnetic resonance imaging (fMRI) scans of the brain to be of significance for art-historical investigation?’ (12-13). These are indeed excellent questions, ones which should be rigorously addressed, and all the more so in that they are ignored by many scientists involved in this line of research. Regrettably again, rather than being subjected to

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4 For an overview of these, cf., e.g., S. Lycett, ‘Cultural Evolutionary Approaches to Artifact Variation over Time and Space: Basis, Progress, and Prospects’, Journal of Archaeological Science, 56, 2015, 21–31.
rigorous analysis, they are dealt with superficially with arguments that mostly repeat and echo previously published insights in support of a foreordained conclusion.

The discussion is already compromised by the indiscriminate mingling of two central objects of criticism - neuroaesthetics and neuroarthistory. While the former is a well-defined field of inquiry, the latter is a term coined by John Onians, one that, however, never caught on, is rarely used, and does not refer to any commonly recognised academic entity, let alone a set of approaches, theories, or practitioners; ‘neurological (sic!) art history’ (81-83) is pure nonsense. More importantly, neuroaesthetics itself is only part and parcel of a much broader intellectual and academic endeavour, in which psychology, cognitive science, experimental aesthetics, affective and cognitive neuroscience, and the philosophy of mind are applied to the study of art. Experimental approaches to art are concerned not just with the neuronal but also and more often with the behavioural and increasingly also the subjective indices of art perception and experience. In fact, many recent studies have explicitly attempted to combine these levels. The proper framework therefore must be to ask: what values do the sciences of the mind and brain and the experimental methods used therein hold for art history? There are some illuminating examples whose significance for art history and theory could have been productively discussed in this context, such as the eye-tracking studies with paintings conducted by the Lab for Cognitive Research in Art History, (which, incidentally, functions as part of the art history department of the University of Vienna), to name but one. But even with the focus narrowed to just neuroaesthetics, Rampley remarkably manages to present a caricature of its current aims, positions, results and problems. The views presented in this book might have been perhaps justified had it been published in 2003, for it proceeds by engaging almost exclusively with examples that are dated, have already been extensively discussed and criticised, and are not representative of the state of the field today.

The reader is first invited to consider the relevance of neuroscience for questions related to the origins of art, principally by turning to David Lewis-Williams’ well-known book The Mind in a Cave, which has been extensively examined in specialised, mostly archaeological, publications. Predictably he reaches conclusion that ‘the neurological (sic!) approach is not able to provide a history of prehistoric art after the evolutionary leap of modern mind.’ No mention is made of the many more recent, less overtly ambitious, but much more nuanced and altogether more substantial examples of cognitively informed approaches to Palaeolithic image- (and tool-) making, such as Lambros Malafouris’ conceptions of enactive cognition and the beginning of image-making, or examples of empirical research, such as inquiries into how neuroimaging methods can be utilised to better

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understand tool-making.6 The alleged failure of neuroaesthetics is then further examined by engaging with the theories of Vilayanur Ramachandran and Semir Zeki. Ramachandran’s most notable contribution to neuroaesthetics is the article he published (with William Hirstein) in 1999 on the eight ‘universal laws of art’. This paper is indeed an example of a highly reductionist generalisation and as such it was criticised (and ridiculed) at the time it was published.7 In contrast, Zeki’s Inner Vision was a pioneering book in the field, but again the book and in particular Zeki’s notion of ambiguity in the arts, discussed by Rampley, have been given a thorough critical examination before. More importantly, since these publications appeared in the very early days of neuroaesthetics, the field has steadily moved away from the sort of highly reductive, generalising assumptions and explanations insensitive to the cultural and historical dimensions of art that appear in these early works.

Another easy target, entirely unrepresentative of current cognitive neuroscience’s research on art, is John Onian’s admittedly simplistic and idiosyncratic application of the notion of synaptic plasticity to the evolution of art styles. Here again, as well as in his discussion of David Freedberg and Vittorio Gallese’s ideas about the role of mirror neurons in the empathic response to art works, Rampley does not offer any new insights, but at best merely elaborates on previous critical analysis of these works.8 Indeed, to base a discussion of the relevance of neuroscience for art theory and history in 2016 mainly on Mind in a Cave, Inner Vision, Ramachandran’s eight laws and Onian’s ideas is about as meaningful as it would be to limit the analysis of the value of sociological approaches to art history to the work of Frederick Antal and Arnold Hauser.

The situation does not improve as the author turns from these specific cases to present ‘theoretical objections’ to the use of neuroscience in art theory and history. His only relevant point concerns the artificiality of the environment in which neuroimaging experiments take place. This has indeed been a standard and valid objection, discussed on numerous occasions. Any experimental method, neuroimaging included, has some inherent limits – the same, incidentally, holds true of any method or approach for studying art, from iconography to archival research. It is indeed commonly accepted that important dimensions of experiencing art in front of a real art work cannot in principle be replicated inside an MR scanner.

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7 See the collection of essays in Journal of Consciousness Studies 6.6/7, 1999, 52-75 and JCS 7.8/9, 2000, 17-42.

or lab and no one seriously claims that such methods are able to uncover everything that is important about how we perceive, understand and enjoy art. Rampley further asserts that that underlying the use of neuroscience in the humanities is ‘a crude materialist theory of mind’ (99), a claim supported by nothing more than an extensive quotation from Raymond Tallis’s intelligent if draconian book Aping Mankind. He further accuses the neuroscientific approach of committing a basic category error – conflating the observed correlation between neural activity and subjective experience with the idea of a causal relation (100). Both these points are demonstrably false: although it is possible that most researchers involved in cognitive neuroscience adhere to some form of materialist world view or biological theory of mind (but how do we know that for sure?), the use of experimental method – such as neuroimaging - to study the ‘brain on art’ does not in itself require or imply any particular position held by the researcher in terms of a conception of mind, materialist or otherwise.9 Regarding the second objection, everyone involved in this research is naturally well aware of the fact that methods such as fMRI or PET are correlational and no one holds that the correlation between certain conscious experiences and brain signals implies that the two must be identical, as Rampley, taking his clue again from Tallis, suggests. It is characteristic of author’s superficial criticism that he falsely imputes such views to the field, while ignoring the existence of ongoing lively and critical discussions within cognitive neuroscience and experimental psychology communities dealing with such key issues as the limits to inferring mental states and cognitive processes from neuroimaging data or the problems of interfacing between neural, behavioural data and subjective reports of experience,10 as well as the critical examinations of the limitations and problems of cognitive-neuroscientific approaches to art that have emerged both outside and within neuroaesthetics itself.11

9 For a particularly illuminating example of the interrelationship between brain research and subjective consciousness by one of the leading cognitive neuroscientists, see S. Dehaene, Consciousness and the Brain. Deciphering How the Brain Codes Our Thought, New York 2014.
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Completely off the mark also is his last theoretical objection, namely that neuroscientific approaches to the arts and humanities are often based on an image of art and culture as a sequence of private events taking place within the mind/brain of the individual, while in fact art takes place in an intersubjective place. To use his phrase, art ‘takes place’ both in the intersubjective (cultural) space and the private space inside individual minds/brains/bodies. But he conveniently ignores the fact that many recent studies of art experience, using neuroimaging, as well as more traditional methods, are increasingly oriented toward comparing inter-individual differences within certain groups and the effects of collective cultural and social determinants on the individual response to art.

At the beginning of the section in which these theoretical objections are discussed, the author states that there is no room in his book for an extensive discussion of intricate arguments about brain/mind or a full assessment of the criticism of neurophilosophy. Unfortunately, to answer some of the specific (and indeed important) questions he so succinctly formulates, such as ‘what does it mean to state that there is a correlation between neural activity and certain subjective experiences?’ (100), requires just this – to delve into an extensive cross-disciplinary discussion of the relevant ‘intricate arguments’. And in order to deliver what the book explicitly promises, that is, to assess the value of neuroscience or theories of mind for understanding art, the author would have to try to present such issues and the current state of debate on them to humanist readers in some depth without burdening them with technicalities, and not just repeat the previous insights of one particular critic.

In the light of this superficial and inadequate discussion, his conclusions are hardly surprising – neuroaesthetics shows no interest in art as a cultural activity (134), it provides at best an additional layer of commentary on art works and one of limited relevance (99, 105), it is of extremely limited utility (102) and is a failed enterprise (105). These confident and sweeping assertions are in places accompanied by arrogant rhetoric: art historians who have gotten themselves entangled in neuroscience ‘lack the theoretical sophistication’ of Yve-Alain Bois and his peers (88). The arguments of neuroscientists and experimental psychologists (Rampley names Helmut Leder, Martin Skov and Helmut Belke) are ‘crudely formulated’, but ‘similar ideas populate the work of considerably more sophisticated thinkers’ (such as Barbara Stafford) (98) and the writings of those mentioned are examples of ‘vulgar and shallow interdisciplinarity’ (105). One cannot help but wonder how such disrespect squares with the book’s preferred pleas for a better dialogue between art and science? For instance, Helmut Leder, one of the researchers dismissed as a less sophisticated thinker, is in fact a leading authority in the field of experimental aesthetics, with an impressive record of important work that has significantly advanced our understanding of crucial aspects of the response to art and art experience. His writing naturally follows disciplinary protocols that are different from the kind of art theory and history written by art historians who are mentioned, and it is utterly meaningless to compare their levels of ‘sophistication.’

I shall conclude with a few remarks that I would normally refrain from making, but since the issue has been raised by the author himself, a response is warranted. These remarks concern his insistence that the political aspects of the approaches and theories he discusses should be scrutinised (41). He argues that the ‘stakes are higher than merely the context for the control of the field of art discourse’ and ‘many /exponents of biological approaches/ are motivated by profound ideological unease with global cultures, putting in their place an essentialized vision of art’ (42); there are ‘conservative and reactionary currents in much evolutionary discourse’ (41) and its proponents have tried to disregard cultural difference, often with a ‘shrill neoconservative hostility to difference’ (136). I think that it is in the light of such assertions that Rampley’s rabid dismissal of biology, neuroscience, and experimental approaches, and, indeed, the alarmist and aggressive tone of the book makes full sense. Judging from published output, the overwhelming majority of scholars involved in evolutionary aesthetics or cognitive-neuroscientific/experimental approaches to art are busy pursuing their research and do not make any claims that biological science provides a superior interpretative approach to art; they do not dream of attaining mastery over and subordinating the humanities, let alone creating unified knowledge based on biological paradigms. They are aware of the importance of cultural differences in response to art and many of them are actually trying to find new ways to account for them based on objective evidence, rather than ideological assumptions. But revealing the shared biological foundations of the human response to art and finding new ways of examining how biological and cultural factors intersect in the experience and enjoyment of art may indeed be perceived as a grave danger by those for whom human nature is a dirty word12 and whose thinking on culture and art is constrained by a self-imposed intellectual straitjacket of social-constructivist theories, fuelled by identity politics. Rampley tends to think in binary terms, and thus argues that those who defend ‘..the evolved inherence of aesthetic sensibility in human nature can do so only at the cost of being able to analyse the diversity of cultural forms’ (32). But this is misplaced thinking, because to admit that certain human biological and psychological dispositions for making and perceiving art have evolved in humans and to allow even some measure of an essentialist notion of art does not mean that cultural differences need be overlooked.

Borrowing from Rampley’s own diagnostic toolkit, one can see the book as a symptom of defensive anxiety, triggered by the sobering realisation that some of the assumptions and claims of feminist, queer, postcolonial, and other social constructivist theories concerning the response to and experience of art are exposed as lacking any substance by this research. At the same time, the way the political angle is presented is deeply troubling, as it raises the spectre of thought policing, intent on derogating any research that is perceived as threatening the dogmas of social constructivism and identity politics with ‘reactionary’ label. Rampley concludes by pointing to the desirability of a dialogue between the humanities and

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