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Focus: Thoughts on the Scientific Revolution

Introduction: Historical Coherence, Complexity, and the Scientific Revolution[1]

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Historical inquiry today is robust at multiple levels and celebrates novel interpretation and the rich complexity of the past. Although historians show no signs of paralysis in the light of the epistemological challenges of the 1980s and 1990s, many remain disillusioned with traditional periodization schemes. In the case of the Scientific Revolution, this skittishness seems to translate into a sceptical resignation about the possibility that the new scholarship can ever reveal an underlying coherence. As the essays in this forum on the Scientific Revolution demonstrate, however, such resignation is an inadequate response to novelty and complexity. New findings ought to prod historians to search for more intricate and satisfactory patterns.

The waning decades of the twentieth century witnessed considerable turmoil in the historical profession. Some, imbibing various vintages of postmodernist thinking and allied literary theory, argued that conventional thinking and writing about history was hopelessly flawed. They dismissed as epistemological naivety the notion that historians employing detached empirical methods can arrive at narratives that reasonably correspond with the past. Historical facts never speak for themselves nor can historians come close to knowing the past as it actually was. Consequently, history understood as the particular way that modernity carved up and made sense of the past is a failed enterprise, and historians should be content with, at best, producing 'possible narrative representations' of the past.

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No serious thinker denied that the past happened, but more than a few asserted that no past exists independent of historians' constructions of it. The past necessarily reaches us only through 'configured, troped, emplotted, read, mythologized and ideologized' ways.[2] According to this line of thinking, the venerable albeit unattainable 'noble dream' of truthful and detached historical interpretation must be replaced with the more modest goal of historical representation. History so conceived is an evidentiary-based literary endeavour in which the distinction between the historian and the object of the historian's study has collapsed.[3]

For postmodernist sympathizers all this was liberating. Conventional understandings of and approaches to the past need no longer constrain the creative historian who was free to revel in the 'plural reading of texts once thought to allow only singular ones'.[4] But, not surprisingly, many historians were alarmed by these notions. Some were downright outraged. One agitated Australian historian, for example, wrote a polemic arguing that postmodernists and cultural relativists were killing the traditional practice of history.[5] Others, like the British historian of Germany, Richard J. Evans and several of the founders of the Historical Society in the United States, warned that the cultivation of detachment and self-criticism, along with scrupulous assessment of sources, cannot be jettisoned without serious consequences to the integrity of historical inquiry.[6]

The post-modern challenge was not the only reason for the acute sense of crisis many felt in the 1980s and 1990s. Some argued that the trinity of race, class, and gender had become a conceptual and ideological straightjacket of intellectual conformity, and those disciplines that on the whole were resistant to these rubrics – diplomatic, military, intellectual, political, and economic history – were being marginalized in the profession.[7] These sub-disciplines could become 'respectable' if their practitioners would abandon conventional approaches that privilege such things as power, ideas, and statesmanship and look at the past through these prescribed lenses.

Looked at in retrospect, the history debates or 'wars', in some celebrated instances of 10 to 15 years ago, seem far too shrill and laced with hyperbolic claims. The post-modern epistemological challenge, which once appeared so formidable, seems more like, in Felipe Fernández-Armesto's words, 'a paper tiger of fearful asymmetry'.[8] Practicing historians have rejected the nihilistic tendencies of postmodernism in favour of a commonsensical approach to their craft.[9] They accept the constructed and literary nature of their work and the necessary reliance on conceptual schemes and hermeneutical devices imported from the historian's present. But they do not lose much sleep over epistemological matters or question the value of creating narratives based on reliable sources.

Historical inquiry today, it is fair to say, is robust at multiple levels from the topics historians explore to the approaches they use to find meaning and insight

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from the past. Historians are open to almost any aspect of human experience. Sir Keith Thomas marvelled recently at the astounding range of topics that interest historians, 'from childhood to old age, from dress to table manners, from smells to laughter, from sport to shopping, from barbed wire to masturbation'.[10] A symptom of the expansiveness of historical inquiry is the increasing attention given to 'the irrational, the eccentric and the bizarre'[11] something that is also fuelled by the popularity of cultural history. Work in these topics also suggests, as Thomas puts it, 'a greater sense of the otherness of the past'.[12]

Historians increasingly look at past human experience from the inside, the ways people experienced various things in their lives. What people thought happened and what it felt like may be more fascinating to historians than what 'really happened'.[13] A case in point is dismissing textual references to supernatural entities like angels or demons as irrational, superstitious, or the result of some psycho-social phenomenon, often renders a version of the past that is too thin and does not come close to understanding how life was actually experienced. Indeed, this example suggests another significant trend in current historical inquiry, the movement away from explanation and causation to a search for meaning and understanding.[14]

Fernández-Armesto has also noted that 'as the tide receded, postmodernism left a rich residue on the shore encouraging historical beachcombing'.[15] What is this 'residue'? After postmodernism's critique of meta-narratives, historians on the whole are reluctant to conduct large-scale studies that explore change over long periods of time. They are much more comfortable with micro-histories. Indeed, cultural history has emerged as a key sub-discipline.[16] Skittishness about grand narratives has also contributed to an emphasis on individuals in historical literature. 'Historians began writing about people again', Richard Evans contends, 'and above all about humble, ordinary people, history's obscure, the losers and bystanders in the process of historical change'.[17] Recent years have also witnessed much more interest in historical biography and a larger role for human agency and historical contingency in historical narratives. Indeed, contingency may be the core notion in the contemporary historian's functional philosophy of history.[18]

In this context, revisiting the question of whether there was such a thing as a Scientific Revolution in the sixteenth and seventeenth centuries is most illuminating. If nothing else, it reveals how one disciplinary subfield, history of science, has been influenced by many of these larger intellectual trends and currents. Recent historiography has not been kind to the concept of a coherent and momentous Scientific Revolution. It survives in undergraduate textbooks, but is frequently dismissed in more specialized work. In 1996, Steven Shapin began his synthetic interpretation of the Scientific Revolution with the memorable sentence: 'There was no such thing as the Scientific Revolution, and this is a book about it'.[19] Although his overall argument was considerably less provocative than this

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opening line suggests, Shapin denied that there was anything like 'an *essence* of the Scientific Revolution' and emphasized 'the heterogeneity, and even the contested status, of natural knowledge in the seventeenth century'.[20] A decade later, the editors of *The Cambridge History of Science* volume dedicated to the early modern period intentionally avoided the phrase 'the Scientific Revolution' in its title. In their introductory essay, Park and Daston observed that 'the cumulative force of the scholarship since the 1980s has been to insert sceptical question marks after every word of this ringing three-word phrase, including the definite article'. They go on to assert that 'it is no longer clear that there was any coherent enterprise in the early modern period that can be identified with modern science, or that the transformations in question were as explosive and discontinuous as the analogy with political revolution implies, or that the transformations were unique in intellectual magnitude and cultural significance'.[21]

The distinguished historians whose essays follow are well aware of these concerns, and while they may want to refine and reconceptualize the traditional framework, none of them is prepared to jettison the Scientific Revolution. Their views represent a reasoned and varied set of responses to the notion that the Scientific Revolution is no longer a useful construct, as well as to the disillusionment with traditional periodization schemes. And, more significantly in my view, they reveal the importance and functionality of the search for coherence[22] in a historiographical climate that celebrates novelty, the particular, the local, in a word, complexity. As H. Floris Cohen rightly laments, embracing the novelty and complexity of the new scholarship has been accompanied regrettably with a sceptical resignation that there can be an underlying coherence to the various developments of seventeenth-century science/natural philosophy. This is no small matter. If the quest for a coherent Scientific Revolution is deemed a fool's errand, what then of other historical frameworks like the Renaissance and the Enlightenment? It is not, of course, inappropriate to question the coherence of a given framework or periodization scheme; obviously, not every historical construct can withstand sustained scrutiny. But a more constructive response to recent scholarship is to use its findings to test, refine, and, if need be, replace existing frameworks with new ones that offer a more coherent rendering of the past.

To push the argument further, if sceptical resignation goes well beyond the Scientific Revolution and ever represents the prevailing response to the prospects for historical coherence in general, then postmodernism's residue will have indeed turned out to be toxic. History in that sad event really would become 'one damned thing after another'. Absent the search for coherence, historical inquiry as a meaningful intellectual enterprise flirts with bankruptcy and historians risk becoming guardians of antiquarianism. If in their sceptical resignation historians were to cease advancing explanations for big questions like those that lie behind

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the concept of the Scientific Revolution, they will have spurned an important social responsibility, to make sense of the past and forfeited their claim for a valued place in the academy.

Fortunately, this is not the case. While sceptical resignation is certainly present in some quarters, it does not dominate, as the essays that follow illustrate. These five scholars maintain that the Scientific Revolution refined in various ways remains a functional historical framework, which helps to organize a vast amount of scholarship. Their essays also demonstrate how impoverished the response of sceptical resignation is to a more complex past. New findings can and generally do lead to the recognition of more intricate patterns.[23] Novelty and complexity are by no means the implacable enemies of historical coherence.

References and Notes

1. Some of the following comments are adapted from D. A. Yerxa (forthcoming) Historical inquiry and thinking today. In D. A. Yerxa (Ed.) *Recent Trends in Historical Thinking. A Historically Speaking Reader* (Columbia: University of South Carolina Press).
2. See A. Munslow (1997) *Deconstructing History* (London: Routledge), p. 16; K. Jenkins (1999) *Why History? Ethics and Postmodernity* (London: Routledge), p. 3.
3. A. Munslow (2003) *The New History* (Harlow: Pearson Longman), pp. 4–6.
4. M. Bentley (2006) Island stories. The British historical tradition and its afterlife, *The Times Literary Supplement* (October 13), p. 6.
5. K. Windschuttle (1994, 1996) *The Killing of History. How a Discipline is Being Murdered by Literary Critics and Social Theorists* (Paddington, Australia: Macleay Press).
6. See R. J. Evans (1999) *In Defense of History* (New York: Norton), pp. 219–220; M. Trachtenberg (1999) The past under siege. a historian ponders the state of his profession – and what to do about it. In E. Fox-Genovese and E. Lasch-Quinn (Eds) *Reconstructing History. The Emergence of a New Historical Society* (London: Routledge), pp. 9–11.
7. See E. D. Genovese (1999) A new departure, in *Reconstructing History*, p. 7.
8. F. Fernández-Armesto (2002) Epilogue. What is history *now*? In D. Cannadine (Ed.) *What is History Now?* (Basingstoke: Palgrave Macmillan), p. 149.
9. K. Thomas (2006) New ways resisted. How history's borders have expanded in the past forty years, *The Times Literary Supplement* (October 13), p. 4.
10. *Ibid*.
11. R. J. Evans (2002) Prologue. What is history? – *Now*, in *What is History Now?*, p. 9.

https://doi.org/10.1017/S1062798707000439 Published online by Cambridge University Press

12. K. Thomas (2006) New ways revisited, p. 3. See, for example, D. Oldridge (2005) *Strange Histories* (London: Routledge).
13. K. Thomas (2006) New ways revisited, p. 3; F. Fernández-Armesto (2002) Epilogue. What is history *now*?, in *What is History Now?*, p. 155.
14. D. Cannadine (2002) Preface, in *What is History Now?*, p. xi.
15. F. Fernández-Armesto (2002) Epilogue. What is history *now*?, p. 149.
16. K. Thomas (2006) New ways revisited, p. 4.
17. Evans (2002) Prologue. What is history? – *Now*, pp. 8–9. See also Thomas (2006) New ways revisited, p. 4.
18. With contingency has also come growing interest in counterfactuals. If humans indeed shape history by their actions and ideas, then things might have been very different. Taken to an extreme, counterfactual analysis becomes sheer speculation, but employed with circumspection it provides added insight into the important choices people have made.
19. S. Shapin (1996) *The Scientific Revolution* (Chicago: University of Chicago Press), p. 1
20. *Ibid*., pp. 161–162.
21. K. Park and L. Daston (2006) Introduction. The age of the new, in K. Park and L. Daston (Eds) *The Cambridge History of Science: Volume 3, Early Modern Science* (Cambridge: Cambridge University Press), pp. 2–3.
22. Coherence in history and historiography – not the same thing, by the way – should be of greater concern to historians. For a superb discussion of the notion of coherence in historical study, see A. Megill (2004) Coherence and Incoherence in historical studies. From the Annales School to the New Cultural History, *New Literary History* **35**, pp. 207–231.
23. J. H. Brooke (2007) Science, religion and historical complexity, and responses by D. Livingstone and W. R. Shea, *Historically Speaking* **8**, pp. 10–17.

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