Cognitive Historiography:

When Science Meets Art

Harvey Whitehouse

"History is nothing more than a tableau of crimes and misfortunes."
—Voltaire

"History is past politics and politics is present history."
—E. A. Freeman

"The history of the world is but the biography of great men."
—Thomas Carlyle

"The world's history is the world's judgement."
—Friedrich von Schiller

"History is a nightmare from which I am trying to awake."
—James Joyce

The above selection of pithy definitions of history, however frivolously professed, illustrates a serious point: history is not simply a body of knowledge about 'the past', but about human affairs that are considered to matter. Evolved features of human cognition naturally shape and constrain what is relevant and interesting about the antics of our forebears.

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and thus deeply influence what matters to us about our pasts. History excites our moral sensibilities (von Schiller), our capacities for coalitional thinking (Freeman), our social-cause cognition (Voltaire and Carlyle), and our hopes and fears (Joyce). This is partly why societies with the technological means to store and pore over their histories invariably do so.

But historical representations, like our ideas about the authority of gods and emperors, are not transmitted across the generations simply because they have intrinsic interest. These forms of cultural knowledge provide charters and rationales for action: to sacrifice or invest resources, to invent, to reproduce, and even to kill and die. History, in other words, has motivational force as well as conceptual appeal. These two qualities are mutually implicated: if the aspirations and fates of past heroes and villains, of entire civilizations and social movements, were not meaningful and relevant, then they could exercise little influence over our plans and desires; conversely, if we were not the sociable, communicative, aggressive, sexual, artistic, literary and curious creatures we are, then we would not care a damn for the exploits of our predecessors.

Historicism, as Patrick Hutton eloquently shows, seeks to tease apart the conceptual appeal and motivating power of history, and to prioritize the former over the latter. There are admirable reasons for seeking to do this. Rhetorical uses of the past—as a justification for present calls for action or celebration—foster revisionism. 'Memorialism' gathers moral fervor at the expense of accuracy and balance. But, as Hutton also shows, historicism is not without its own discriminatory agenda. Motiveless it may be, in the sense that it does not deliberately privilege prejudicial political or moral commitments, but historicism does harbour conceptual biases common to most other narrative traditions. Hutton focuses on the historicist technique of structuring the past as a single durational process, unfolding in chronological sequences. Embedded in this sequential framework is a commitment, whether explicit or not, to 'just so' stories insofar as the selection of events to be retold is determined by the intuitive activation of chains of spurious causes and effects that precede it. The actors in an historical narrative, whether named individuals or abstracted agent-like populations (the 'English working class' or 'second generation Irish immigrants'), seem to choose their actions as we might imagine ourselves doing in the light of similar prior experiences. The historian's task is then to activate the readers' intuitions in ways that make past choices seem plausible. As Hutton points out, however, such narrative strategies necessitate selective bias. And it is precisely this kind of bias that, at least according to Hutton, inspired the historiographical strategies of Benjamin, Friedlander, Arès, Nora and Ricoeur—giving rise to what Hutton refers to as a 'mnemonicist' approach. By subverting the linear timeline of
historicism, and replacing it with chronologically and causally disconnected images, vignettes and episodes, mnemonicism sought to restore those elements that historicist accounts could not encompass.

If historicism cannot entirely overcome the distortions of 'memorialismin', then 'mnemonicism' too is ensnared in cognitive forks of a similar kind. History cannot be represented independently of the minds that construct or learn it: mnemonics may embellish conventional narrativity with a range of ways of relating and re-experiencing the past, but the historical visions they accomplish are still shaped and constrained by mental-eminorial systems of a distincively human kind. And, as such, they distort the past as soon as they reconstruct it. One of the great challenges for cognitive science is to explain *how*, and to do so in a way that is both precise and testable.

Brian Malley sets out some concrete proposals for the investigation of this very topic. There are obvious parallels between so-called 'mnemonist' projects and traditions of Biblical interpretation and hermeneutic theory with which Malley is primarily concerned. Both anchor propositional content in textual sources, but both also seek to disrupt the structural continuity between text and interpretation. Just as Malley's Creekside Baptists are minded to cite passages in the Bible according to principles of thematic association rather than according to the structure of the texts from which they derive, so the scholars discussed by Hutton approach history (and historical documents) through the structures of episodic memory rather than of linear chronology. Malley shows that this allows texts and their interpretations to have somewhat disconnected trajectories, a conclusion that I take to be implicitly critical of the mnemonicist strategy (or at least to contain the potential for such a critique).

Benson Saler's eloquent contribution to this volume focuses on what Ron Brunton once called 'misconstrued order' in scholarly accounts of religious traditions—a tendency to exaggerate the systematicity of belief systems which or the ground may prove to be rather more context-dependent, unstable and disconnected. Although addressing his critique mainly to ethnographers, as Saler himself notes much the same problems arise in historiography. Indeed, his argument resonates well with the mnemonicist challenge to historicism: reformulating the past as a linear sequence gives expression to systematizing biases in much the same way as E.E. Evans-Pritchard's classic ethnography of the Azande exaggerated the intellectual coherence of African witchcraft beliefs. As a consequence, vital data may be excluded or distorted. The conventions of essayist literacy, as

Jack Goody has long argued, encourage us to organize our subject matter (for instance in response to demands of sequence, coherence, logical integration, comprehensiveness), and the resulting narratives have a certain flabby and coherence on paper lacking in the lived experience they purport to describe. This is not to say that cultures, past or present, are all in profound disarray, but that the degree of systematicity is an empirical question. Moreover, the question is not simply about cultural traditions per se but about the different ways in which people process and transmit those traditions. In the domain of religion, as Jason Slone has recently discussed at length, people’s implicit beliefs activated on the hoof may prove to be highly unsystematic as compared with their explicit, ‘theologically correct’ accounts of what they believe. Just as ethnographic accounts need to be sensitive to these issues, so too do the writings of historians.

While Hutton, Malley and Saler identify various methodological challenges for historiography, the other contributors to this collection focus more on the subject matter of historical research itself. What can cognitive science tell us about the behavior of individuals and societies in the past? Of course, this question cannot be divorced from issues of methodology and the construction of historiographical narratives. If, for instance, we can demonstrate more robust causal chains in patterns of historical transformation than the ‘just so’ stories of historicists, the ‘must be so’ stories of memorialists, and the ‘just feels so’ stories of mnemonists, then we may be able to provide new and better ways of structuring our accounts of the past. Though not a separate set of problems, however, issues of historiographical presentation are secondary. Our first task must be to ask if the subject matter of historical enquiry really can be explained by mechanisms ‘beneath the surface’, specifically in terms of the operations of our cognitive architecture.

Hutton uses a spatial metaphor to convey the structuring principle of mnemonist narrative: the ‘memyclopedia’. But if the past is to be mapped across space rather than time, then this raises questions of how ideas become distributed—how they spread. As Shane Barney puts it, in his engaging account of Edith Cavell’s posthumous fame:

3. As noted below, similar effects can be generated simply through the routinized rehearsal of particular bodies of ideas, and indeed this technique of systematizing beliefs may predate and largely account for the emergence of essayist conventions.
Numerous groups have come to understand and venerate Cavell in different ways. These varying notions of her have become immortalized in an array of memorials... By 1921 there were at least a hundred such places in England, and countless more spread around the world... (Why so many places of memory?) (emphasis added).

According to Dan Sperber, cultural representations—such as Cavell memorials—can be likened to viruses, insofar as they are capable of spreading across susceptible human populations. Our susceptibility to representations, like our susceptibility to viruses, derives from our organic constitutions. The way our minds are organized partly determines what concepts will be easy or hard to encode and recall, their emotional brus, inferential potential, strategic importance and so on—just as the nature and condition of our immune system partly determines what viruses we are likely to catch upon exposure. Of course, the analogy between cultural representations and viruses should not be taken too far. For instance, as Sperber points out, "in the transmission of viruses mutation is relatively rare and replication commonplace, whereas the circulation of concepts generally involves continual mutation, rather like an immensely complex game of Chinese Whispers. But the analogy is also revealing: what makes some representations 'cultural' is precisely their relative stability despite the risks of mutation that inhere in countless acts of transmission. Most representations we encounter as we move through life simply fall out of use, but some—like well-known stories, songs, artworks, laws, religious beliefs, and so on—survive in recognizable forms as they travel from person to person, sometimes across oceans and generations. Moreover, these processes of cultural persistence, like the spread of viruses, can be tracked at a population level to reveal distinct epidemiological profiles: some cultural information (for instance the history of an isolated village or the beliefs of a small cult) persists only at a particular locality, like an endemic virus; other kinds of cultural information (like the story of Edith Cavell) spread far and wide, perhaps reaching epidemic proportions.

To ask why some cultural representations become widespread is partly a question about the technologies of communication, the motivational priorities of propagating sources, the costs of dissemination, and the institutional frameworks through which social intercourse is organized. For

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6. Sperber, Explaining Culture, p. 58
the story of Edith Cavell’s heroic sacrifice to be effectively disseminated, it
mattered considerably that the story could be printed on paper, that
photographs and other images of Cavell could be distributed in journals
and pamphlets, that the English-speaking world at that time was linked by
shipping routes and rail networks, that Britain and her allies had developed
a highly sophisticated war machine, willing to invest heavily in the
transmission of propaganda. All these factors, however, are no more
sufficient to explain why the Cavell story had such a dramatic impact on
people’s memories, attitudes and behavior than the presence of global
airline networks would be capable of explaining the causes of influenza.
Just as the spread of viruses ultimately requires a medical explanation, so
the spread of cultural epidemics requires a cognitive explanation.

Part of the riddle of the cultural success of the Cavell story is solved by
Tom Sjöblom’s contribution to this volume. Sjöblom, after all, is out to
explain something very similar: the cultural success of various kinds of
narratives in an early Irish context. The appeal of cognitive explanations is
partly that they are in principle generalizable: the models that help us to
explain the spread of narratives in one cultural environment or historical
epoch should apply equally well in any other. Sjöblom, following a number
of other authors, observes that humans have ‘narrative minds’, which
means that we naturally organize our experiences into causal stories and
are adept at encoding and recalling certain features of the stories we hear
from others. Frederic Bartlett showed over seventy years ago that what
teaches people remember best about stories are not the words themselves, but the
‘gists’ of narratives, or portions of narratives. Thus, we may recall the kind
of action that a character in a story performed, the general intentions it
expressed and the types of consequences that followed from it, but we
may be rather less precise and accurate in recalling the exact actions,
instruments, outcomes and so on that the original story specified. In
general, as time passes our recall for a given story heard in the past
becomes simpler: some details are forgotten or simplified, the particular
becomes more general, and the story becomes shorter. But some stories
are relatively immune to these ‘Bartlettizing’ effects.

A ‘gist’ is really a bundle of features that may be relevant in solving other
kinds of problems. Proverbs are good examples of stories that have been
 pared down to ‘gists’: source analogues for a range of potential target
mappings. Mark Turner puts it like this:

Proverbs frequently present a condensed, implicit story to be interpreted through projection. "When the cat's away, the mice will play," said at the office, can be projected onto a story of a boss and workers. Said in the classroom, it can be projected onto a story of teacher and students. Said of sexual relationships, it can be projected onto a story of infidelity. With equal ease, we can project it onto stories of a congressional oversight committee and the industries regulated by the committee, a police force and the local thieves, or a computer security device and the computer viruses it was intended to control.

The cat and mouse proverb is thus a kind of "master narrative" insular as it is applicable to a vast array of other stories. The Edith Cavell story, and perhaps some of the early Irish tales discussed by Sjöblom, are master narratives of this kind. The theme of the Cavell narrative is one of self-sacrifice and injustice. These themes are not new—in any society, people can relate instances, especially in the domain of kinship relations, of generalized reciprocity and altruism and can probably identify circumstances in which members of their own coalition were treated with outrageous injustice and brutality by their enemies. But Cavell's plight presents a paradigmatic case, free of ambiguities and complexities that typically soften the impact of real life stories. She voluntarily sacrificed her life for her country and was murdered by her country's enemies. That is the 'gist' of the Cavell story, and most (if not all) elements of the resulting narratives contributed directly and forcefully to its transmission. For troops and their families torn between fear of death and injury (of themselves and their loved ones), on the one hand, and the moral pressure and coercion of both domestic and state machinery, on the other, Cavell's story provided an exceptionally relevant parable. The voluntary nature of her sacrifice is especially salient. Cavell need not have returned to Brussels after the Austrian declaration of war against the Serbs. She need not have risked her safety, guaranteed by the occupying Germans, by working for an underground organization. She did not attempt to deny the charges of treachery, nor shrink from the punishment meted out. It is hard to imagine a story better designed to inspire those who would lay down their lives for their country, or to comfort the relatives of those already lost in action.

Of course, one does not really require the tools of cognitive science to reach such conclusions. Much of the intuitive appeal of the Cavell story is available to conscious inspection. That is not always the case. Theodore

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Vial argues that Luther's teachings on the sanctity of the Eucharistic host incorporated easily cognized features that Zwingli's theology did not, thus accounting for the relative success of Luther's version in popular religious thinking, even within Zwingli's own church. And yet, what allegedly made Luther's arguments more 'easily cognized', namely the minimally counterintuitive properties he attributed to the host (as 'fleshbread') would probably not be recognizable as such to European Protestants. To understand the cultural success of minimally counterintuitive concepts requires an appreciation of the naturalness of the partitioning and content of intuitive ontological knowledge, and thus of the ease with which minimal violations of that knowledge are entertained and recalled. So the reasons why particular pieces of cultural information are relatively easy to acquire and transmit may be partially or even entirely obscure in the absence of an adequate understanding of the cognitive mechanisms through which that information is processed.

The Cavell story survived intact because its constituent elements, perhaps like Luther's concept of Fleischbrot, had a natural appeal for the populations in which they spread. And yet, there are large bodies of cultural knowledge far more difficult to encode and certainly to recall, especially in the domain of religion. Although religious traditions may be replete with proverbs and parables easily acquired and transmitted, and with minimally counterintuitive concepts that are attention-grapping and memorable, the most persuasive and motivating forms of religious thinking are often very much more difficult to pass on.

All the so-called 'Great Religions' are constructed around bodies of doctrine that are challenging for the newcomer to grasp, and the same is true of most regional religions, whether resulting from independent invention or from processes of splintering and reformation. Elaborate religious creeds, however, are not always communicable by word of mouth. Consider the complex revelations of mystery cults, which might have been too secret and dreadful to utter but which have preoccupied the minds of ritual elders, priests and masters of initiation for many millennia. Religious knowledge of these kinds cannot be passed on in the same way as the story of Edith Cavell. Complex religious doctrines and mysteries would be forgotten all too rapidly or garbled beyond recognition. Two main strategies can be used to ensure that information, otherwise at risk of being forgotten, is faithfully preserved in memory. These strategies are repetition and emotional arousal. James L. McCaughey puts it like this:

Scientific studies of memory, started only a little over a century ago, have amply confirmed the conclusion that practice makes perfect. We all know that rehearsal of information or skills creates stronger memories. Much education is, of course, based on this general principle, but there is another way to make strong memories of experiences...[which] has been long known but only recently the subject of scientific enquiry. In medieval times, before writing was used to keep historical records, other means had to be found to maintain records of important events such as the granting of land to a township, an important wedding or negotiation between powerful families. To accomplish this, a young child about seven years old was selected, instructed to observe the proceedings carefully, and then thrown into a river. In this way, it was said, the memory of the event would be impressed on the child and the record of the event maintained for the child's lifetime...Research from many laboratories has revealed that there...[is] a promiscuous system that enabled the lasting memory of the medieval child thrown into the river. Emotional arousal activates stress hormones that, in turn, stimulate a specific brain system that regulates the consolidation of recently acquired information to other brain regions.10

Cultural traditions have long depended on these features of human memory to ensure that important information is retained over generations in the absence of written records. It is in the domain of religion, however, that these alternative strategies—of repetition and emotional arousal—were first developed to maximum effect. The strategy of repetition is ideally suited to the transmission of elaborate teachings codified in language. Not only does it prevent the 'Bartlettizing' of narratives, allowing details as well as 'gists' to be faithfully preserved in collective memory, it also establishes a natural division of labour between teachers and pupils, and thus the foundations for religious authority and ecclesiastical hierarchy based on privileged access to an orthodox canon. Consequently, this privilege can be extended to the masses through proselytism and preaching. Routinized religious practices also have an expansionary dynamic, and are indeed the only kinds of religious traditions that can spread rapidly while retaining their distinctive identity and centralized machinery. This is the stuff of which religious epidemics are made.

Religious transmission that relies more on the effects of emotional arousal than of repetition—the equivalent of the medieval practice of throwing a child into the river—produces a rather different cognitive profile and social morphology. For thousands of years, people have undergone religious experiences (often as groups of initiates in traumatic collective rituals) that have left them scarred for life. Instead of being required to learn large volumes of verbally-transmitted information, they have been forced to undergo shocking and usually terrifying and painful episodes that at the same time as being unforgettable also initiate a process of deep rumination on cosmological themes. This is the essence of mystery cults.

These two main strategies have far more complex cognitive foundations and sociopolitical consequences than we can consider here, but the key point is that manipulation of the frequency and arousal of religious experiences facilitates the transmission of representations that would otherwise be far too complex to acquire and remember. But having been transmitted, these complex concepts can exercise extraordinary influence over people’s behavior, often leading them to behave in ways that run dramatically against the grain of their natural inclinations, impulses and interests. This is also the stuff of which history’s great men and women (and also history’s most notorious criminals and despots) are made. If Cavell’s story is attention grabbing in its simplicity, the commitments that drove her to sacrifice her life were probably far from simple. People do not act in ways that are contrary to their biological interests and intuitive assumptions unless they are in the grip of especially powerful belief systems, whether acquired through elaborate training or through deep rumination and personal reflection. Alas, according to Barney we know too little about Cavell’s life to know how her political and moral commitments were formed, but we do know that history is saturated with religious regimes that have driven people to act in deeply unnatural ways, for good or ill. And at the root of these acts, in every case, are processes of learning—based around the alternate strategies of repetition and arousal—that compel us to conclusions of a massively counterintuitive nature.

Of course, assertions are cheap unless formulated in ways that are both precise and testable (and thus transformed into hypotheses and predictions). As Richard English points out, the cognitivist approach to


12. See especially Whitehouse, Modes of Religiosity, chap. 7.
history must demonstrate its credentials to historians by specifying the scope of its claims, and the grounds on which they may be falsified. As far as my own theories are concerned, I have recently tried to do exactly that, by setting out the conditions in which particular kinds of cultural information can and cannot be successfully transmitted, and the sociopolitical consequences of this. Historians, anthropologists, archaeologists and other students of human culture can test these hypotheses directly against the bodies of evidence they command (and some steps have already been taken in these directions). Much the same process needs to be undertaken in relation to a wider range of theories from the cognitive sciences. What I think we will find is that certain well-established historical paradigms will no longer be workable, because they are premised on impossible psychology. I also eagerly anticipate increasingly robust predictions with regard to the survival or transformation of certain aspects of culture and social morphology in the future, given the presence of specified variables. These are exactly the sorts of challenges that English urges us to take on, if our theories are to justify further attention from historians. In this way, we stand to make a worthy contribution to historiography. What we will not be able to do, as English also astutely observes, is to provide a monolithic framework for historical understanding, replacing all others.

The new cognitivist approaches to history have definite limitations. To take a concrete example, even if we were able to specify the conditions under which Cavell memorials spread, we would never be able to predict the personal histories of individuals like Cavell (e.g., the timing and the manner of her death, so crucial to the formulation of narratives about her heroism). Sperber's analogy with medical epidemiology is instructive. Virologists may be able to explain how certain diseases spread but they will never be able to explain satisfactorily why one person exposed to a virus falls prey and dies, while another person of similar constitution does not. We can describe what happened but we cannot explain it, except in terms of general probabilities at a population level. Historians are concerned both with the predictable patterns of past events and their vicissitudes. Vicissitudes are the stuff of gripping narrative (for we humans are inveterate producers and consumers of stories) while patterns of transmission in turn provide material for theory building. For this reason,