Title Page:

Telling the 'truth' about 'biological turn'? Science and pragmatism in sociocultural history writing[1]

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Abstract: (300 words)

Can scientific knowledge of brains help recover historical experience? Daniel Lord Smail, self-styled 'student of deep history', believes so, and is enthusiastically supported by cultural historian Lynn Hunt. Brains, Smail reasons, as transhistorical objects are a *trace* of experience. Through neuroscience and other life sciences the casual relationships between culture, the body, and the brain are knowable, and the experiences of the 'mute inglorious Miltons in the Palaeolithic era,' can be recovered. For Smail, natural science can tell us as much about human experience as written records. However, critics of this 'biological turn' denounce it as naïvely 'aping,' the claim that the sciences provide unproblematically objective knowledge and is highly politically suspect.

This paper argues that the biological turn is not as novel as its promotors hold and support for it has more complicated foundations than its critics allow. The turn can be considered part of the programme of mainstream 'sociocultural' history writing. Hunt's support is predicated on her defence of this programme and its capacity to recover 'true' experiences and knowledge of the past which she has been championing since the 1990s. The practice of the recovery of experience by history writing has been severely criticised: poststructuralists have argued recovered 'experience' is constituted by language and unable to unproblematically reflect external reality. Hunt believes she and the turn have moved beyond poststructuralist concerns. She draws upon twentieth-century philosophical pragmatism: through subjective experiences she aims to assemble objective truth in science and history. Consequently, Hunt

[1] *This paper is based on the author's masters dissertation, submitted in September 2017. The dissertation was a significant development on the author's undergraduate dissertation in 2016, a version of which appeared in publication in* Exchanges: the Warwick Research Journal *in 2017. This paper makes a substantially reworked argument to the 2017 published piece (Patel 2017).*

‘is pleased to have science as an ally,’ in pursuit of truth. This explains some of the biological turn’s puzzling appeal. However, this paper will argue that the turn and Hunt have failed to overcome poststructuralist critiques. It also reinforces the criticism that sociocultural history writing more widely fails to satisfactorily account for the politics it serves.

Keywords: Biological Turn, Daniel Lord Smail, Lynn Hunt, Pragmatism, Historiography, Neurohistory, Deep History, Poststructuralism

Biography (first person): (200 words)

Josh Patel is a Ph.D. student at the University of Warwick, supervised by Claudia Stein and Mathew Thomson. His thesis examines the expansion of higher education in Britain throughout the period 1958-73. It considers what the leaders of universities imagined the role of their students in society should be. Josh’s wider research interests include the historiography and methodology of global and ‘deep’ histories.

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Introduction: the 'biological turn' and sociocultural history writing

Since 2000, a number of historians have taken what has been described as a 'biological turn' in history writing (Fitzhugh and Leckie 2001, 79). The 'biological turn' is showcased by its promotors as trendy, confident and mindful: its programme is entrepreneurial and enterprising, crashing through rigid disciplinary boundaries and hauling history beyond the limitations of physical evidence, particularly stuffy, elitist written texts, by deploying the best of the resources of the life sciences.[2] These resources include, but are certainly not limited to, molecular chemistry, palaeontology, evolutionary psychology, climatology and especially, neurobiology; and technologies such as radiocarbon dating, climate modelling, paleogenetic analysis, epigenetic technologies, functional magnetic resonance imaging (fMRI), and many more.[3] Proponents argue with these technologies the predictive powers of objective and universal sciences would expand the historian's investigatory powers across time and space, democratise history writing, and perhaps open up a 'universal history'. It problematises the boundaries between non-human and human; natural force and cultural agent; and pre-history and history is, they claim, a history necessary to tackle the problems facing humanity in the Anthropocene. Medieval historian Daniel Lord Smail (Shryock and Smail 2011; Smail 2008) and his 'Deep History' project, sketches an exciting and expansive history spanning not just thousands but millions years. Smail proposes to use particularly neuroscientific knowledge of

[2] I use the term 'biological turn' over related phrases such as 'deep history', 'big history', or 'neurohistory', as 'biological turn' implicates a broader collection of historical project in a wider historiographical context of the various 'turns' in the focus of history writing since the 1970s. Judith Surkis (2012, 700-22) has helpfully discussed and problematised these turns in historical and political context, including the 'linguistic', 'cultural', 'imperial', 'transnational', 'global', and 'spatial' turns.
[3] The subject of this paper is not to review the use and suitability of these methodologies for historical study, but to ask why they are attractive to historians in the first place. The *American Historical Review* (2014, 1492-9) has explored the appropriateness of a selection of new resources.

the operation of brains as an essential object to open up historical understandings of the 'deep past'. David Christian's 'Big History' (Christian 2005, 2010; Hughes-Warrington, Christian, and Wiesner-Hanks 2019) is if possible even more ambitious, stretching over a billion years. 'Big History' has attracted considerable financial investment, most importantly from philanthropist (and geek-legend) Bill Gates and has spawned an educational movement including a textbook, a free online classroom syllabus, a television show, and, complimenting Christian's netizenly TED talk (2011b), a series of educational YouTube videos, 'CrashCourse: Big History' (2014), hosted by internet personality, vlogger, and author John Green. Each of its ten episodes garnered millions of views.

Some academic historians, most prominently Lynn Hunt, have enthusiastically campaigned in support this bold new paradigm of historical studies, and of the possibilities now within reach with the tools of the life sciences. Significant support was marshalled in discussion issues in prominent historical journals such as the *American Historical Review* (2014) and *Isis* (2014). The wider 'biological turn' has attracted effusive admiration from the old vanguard of environmental history such as Alfred Crosby and William McNeil (Crosby 1995, 1189; 2003, 2004; Schwaller 2015, 313; McNeill 1986, 1991; Christian 2005, xv, xxi).

However, the biological turn is not without severe critics. The biological turn smacks of 'scientism': the belief that science is the only worthwhile source of knowledge. Contemporary understandings of what it means to be human, in the Anglo-American world, consider humans to be exclusively biological beings. This artifice, assumed in popular science, has been perpetuated by bestselling authors and personalities who have co-opted their positions in academia and some of whom have directly influenced the biological turn: particularly neuroscientist Steven Pinker (2013), but more including evolutionary biologist Richard Dawkins (2006) and historian Jared Diamond (1998). Historian of medicine Stephen T. Casper (2014, 132) argues their claims to privileged knowledge mimic naturalising nineteenth and

twentieth century polemics about 'how society *ought to be*.' A diverse range of commentators including Kenan Malik (2000), John Law (2007, 595-606), Raymond Tallis (2011, 9), and Steven Jay Gould (1996, 365-66) have argued the consequences of such a move range from the socially irresponsible to validating the morally repugnant, a criticism Smail acknowledges (2011, 11).

Academic historians critical of the biological turn itself, such as Roger Cooter and Ian Kleinberg, have argued that the biological turn has simply sold-out history, and merely parrots preferential contemporary sociocultural beliefs and naturalises them. The use of 'science' in the biological turn, particularly informed by neo-Darwinian ideas, produces prioritised, even hegemonic knowledge of the self as a biologically wired, self-interested individualist consumers in a competitive, capitalist system (Cooter and Stein 2013, ix; Cooter 2020; Kleinberg 2016). The call of the 'biological turn' to draw on the sciences is to, apparently, not engage with the cultural history of science or the findings of projects such as Science, Technology and Society studies (STS) and the Sociology of Scientific Knowledge (SSK). Collectively these cross-disciplinary programmes have shown science is part of culture and not exogenous to it, problematising its claims to objective knowledge of nature. Scientific objectivity, as Lorraine Daston and Peter Galison define in *Objectivity* (2007), is just one of many 'epistemic virtues', a cultural code of practice by which information of the world was generated. Daston and Galison locate this sense of the self, implicated in an ethics of inquiry, as emerging in the mid-nineteenth century. One element of 'objectivity' was the practice of selecting and constituting essential 'working objects' with which to generalise and compare. These were not true things (which are idiosyncratic and 'quirkily particular,') or derived from reality. Instead they were exemplary objects constructed from the observers' 'breadth and depth of experience,' of objects (Daston and Galison 1992, 85-7). The 'essential' object of scientific description was an artifice of the scientist's creation and implicated in scientific practice.

Observers unavoidably made judgments based on their culturally situated and subjective experiences about what characteristics their 'objective' description of objects exhibited. Objectivity possesses no more ability to access 'truth' than any other virtue (Daston and Galison 2007, 17-44; Daston 2009, 800, 2). Therefore, the scientific evidence used by the biological turn cannot unproblematically illuminate human experience in the past.

These findings make the attraction to the biological turn by Hunt and other sociocultural historians confusing. Cooter's (2014, 152) astonishment is palpable when he admonishes Smail for 'indulging unquestioningly in the idealized notion of scientific "objectivity" in popular culture,' and dismissing 'all the hard-won scholarship of historians of science that has gone into proving just the opposite, not least that by his colleague at Harvard, Steven Shapin,' a renowned figure in SSK. Many of the critiques of the biological turn are just simply irritated by the audacity of its claims (Stadler 2014). From this perspective, appeals to 'scientific objectivity' in the biological turn appear little more than rhetorical. For these critics, it seems strange that many sociocultural historians would find the 'biological turn' so attractive.

This paper cautions that the appeal of the biological turn to academic historians, while at first appearing to be an uncritical and perhaps even morally suspect regression into scientism is not so simply explained. Hunt's support for the biological turn is built upon a philosophy of history with foundations laid in the 1990s in response to the poststructuralist challenge the sociocultural history writing. Poststructuralist critiques have questioned the tenet of sociocultural history writing that categories of historical analysis such as 'experience' can be unproblematically and objectively recovered from past (Brown 2013, 75-6). While other historians may simply overlook these issues and take the recovery of true experience of the past for granted, Hunt has provided a philosophical repudiation of a poststructuralist critique for her historical project. This philosophy also underlies her support for the biological turn.

Hunt is far from ignorant of the poststructuralist critique. Instead, Hunt believes she and Smail have moved beyond them.

To make these two arguments, this paper will briefly outline the philosophy of history and pragmatism that Hunt's support of the biological turn makes use of. Smail's attitude to history and science is concordant with and endorsed by Hunt and relies on Hunt's earlier work (Hunt 2014, 2018; Smail 2000, 2008; Burman 2012). Hunt, with historian of American culture Joyce Appleby and historian of science Margret C. Jacob, provided her philosophy in *Telling the Truth about History* (1994; see also Hunt 2018). In *Telling the Truth* Hunt attempted to sidestep poststructuralist critiques of sociocultural history writing by appealing to the philosophy of twentieth century American philosophical pragmatism. Pragmatism originated in the Progressive Era of the 1890s-1920s: coined in the writings of Charles Sander Pierce (1839-1914), popularised by William James (1842-1910), and strongly associated with John Dewey (1859-1952). Hunt's historical methodology aims to arrive at truth through what she describes as 'practical realism' a concept developed from the pragmatist philosopher Hillary Putnam (1992), following Pierce. For Hunt pragmatism offers what she believes to be an antidote to poststructuralist critiques by assembling objective truth from subjective assertions. A critique of the 'biological turn' based around the belief science is obviously cultural contingent has little relevance for a historical project with such an underlying epistemology. It may also help explain why the concerns of the cultural history of science seem to fall on deaf ears. However, Hunt's use of pragmatism is far from uncontested and rather than arriving at an objective truth falls far short, undermining her confidence in the capacity of science to provide objective truths. This paper concludes by pointing towards some critiques of an uncritical reception of the biological turn that subsequently arise.

The 'biological turn' and the sociocultural historical project

Firstly to understand Hunt's support for the 'biological turn' it is necessary to peel back some of the novel gloss of the turn. Rather than being especially innovative, Smail's deep history is an orthodox adherent to the programme of mainstream 'sociocultural' history writing. They share a mission to recover 'true' 'experiences' and knowledge of the past (Jay 2005). Historian of psychology Jeremy Burman (2012, 96-7) tentatively connected deep history and sociocultural history writing. However, he considered the link 'controversial,' and did not pursue a criticism of the attraction of historians to the biological turn along these lines.

Smail's deep history project is articulated in the same language as the wider sociocultural historical programme - usually typified by social historian E. P. Thompson (1968, 1980, 12) and his mission to rescue the experiences of 'ordinary peoples' from the 'condescension of posterity.' This mainstream history writing program I refer to as 'sociocultural' history writing, including 'new' social history and the 'cultural turn' in history writing made from the 1970s to the 1990s. Sociocultural history writing reacted against the social and economic normative models of a Marxist-inspired old social history prior to the 1970s which homogenised the experience of actors in the past (Fass 2003).[4] Instead, sociocultural history writing aimed to recover the unique meaning and experience of historical agents. Like Thompson, and the later 'microhistorical' focus of sociocultural historians such as Natalie Zeamon Davis (2001), Smail's aim is to recover genuine human experience in its historical context.

Smail's main historical work (2003, 13-6, 158, 244; 2000) on the sociocultural history of 14th and 15th century Marseille was frustrated by the lack of suitable written sources

[4] 'Old' social history drew broad normative conclusions based on explanations converging to theories of authors such as Karl Marx, Max Weber, and Emile Durkheim. The aim of such a history was, by studying social interests, to understand the operation of economic, political, and religious phenomena. (Stein 2018; Bonnell and Hunt 1999a, 6-7)

documenting the experiences of 'ordinary peoples'. History and experiences are not exclusively found in texts, which Smail emphatically demonstrates have been arbitrarily privileged as records of experience in the western history writing tradition since the Enlightenment. In his microhistorical investigation in medieval Marseille, the written court records Smail primarily draws from were created by elite judicial bodies but concerning 'ordinary people'. In order to incorporate the experiences of these 'ordinary people' in their own terms into history, Smail turned to the sciences, drawing on the work of well-known scientists including Steven Pinker's cognitive science, William Hamilton's evolutionary biology, Robin Dunbar's evolutionary physiology, and Antonio Damasio's neuroscience. Smail's interest in uses of evolutionary life sciences for history writing developed in two publications, *On Deep History and the Brain* (2008), and a collaborative volume *Deep History: The Architecture of Past and Present* (2011) with physical anthropologist Andrew Shryock and nine other authors representing history, the social sciences, archaeology, human evolutionary biology, historical linguistics, genomics, and primatology. Smail's central argument in these publications is that scientific empirical knowledge of human experience, created by these sciences and their sophisticated technologies, can aid historical inquiry.

Smail's initial reasoning is that empirical evidence for the making of history can be found in all objects and materials in which meaningful 'traces' of human experience can be recovered.[5] His argument extends (indeed, it is often considered alongside) the 'material turn' in history writing (Hall 2003, 17). Smail makes a jump beyond the traditional scope of sociocultural history writing in his enthusiasm about the possibilities of using of neuroscience to recover experiences from the past beyond physical evidence. Smail argues that all historical agents possessed a brain – a *trace* of experience from which history can be derived through scientific knowledge (Burman 2012, 85; Smail 2008, 58). It is important to not misrepresent

[5] A more developed overview of Smail's argument can be found in Burman (2012, 2014).

Smail as advocating a form of biological determinism even if, as he admits, to developing an 'essentialist or universalist stance,' (Smail 2003, 244) towards emotions. For Smail, culture, as understood in sociocultural history writing, as 'connected to concrete episodes in which people create and deploy, disseminate and adopt or transform cultural products and meanings in their practices of life,' (Hall 2003, 27), is not distinctive from the biological material body. The brain, the body, and culture form a system which mutually changed and developed in different times and different ways but in a manner that can be understood as consequences of natural historical processes of 'blind variation and selective retention,' (Burman 2012, 90-2). The body, brain, and culture developed *concurrently*, and in their development prompted further random variation and selective retention. For Smail, the variations in culture, the body, and the brain over time can be identified through neuroscience and other sciences, and their causal relationships with one another described using scientific methods. Smail assumes that current scientific knowledge of this reciprocal development of culture and the brain is true for all times and all people: it is 'trans-historical' (2014, 113; 2003, 244). Despite the plasticity of the human brain to be moulded by human sociocultural life, the life sciences claim the brain as objectively knowable and this knowledge to be universally true (Smail 2008, 113-4; 2003, 245; Kleinberg 2016, 94).

If history-writing aims to recover genuine human experience, Smail claims, it must look beyond written records. Historians would be foolish not to use the knowledge of the life sciences to learn of humanity's experiences in the past. For Smail (2008, 5-6), moving away from written sources will produce a more 'democratic' history writing: 'few historians today would deny historicity to Incans, to Great Zimbabwe, or to the illiterate slaves and peasants of societies past and present merely because they failed to generate writings through which we could touch their thoughts and psyches,' he argues. Smail expands the type of document from which sociocultural history can be written, 'from every type of trace, from the memoir to the

bone fragment and the blood type.' Hypotheses from physical anthropology, primatology, genetics, and archaeology can all be used to expand human agency (Shryock and Smail 2011, 13, 7). This would help to extend human history back tens of thousands of years (Smail 2008, 5), currently 'an undocumented world, at least insofar as *document* has now come to mean something that is written and not, following its Latin root, "that which teaches."' Smail's aim is, in the words of one reviewer, to recover the experiences of the 'mute inglorious Miltons in the Palaeolithic era,' (Renfrew 2012). For Smail, neuroscience and other forms of scientific knowledge might supplement the more direct and traditional sociocultural historical sources of written, material, and visual ephemera as trace evidence of experience.

These assumptions allow Smail to 'explain' the experiences he encounters in his written sources in Marseille, or indeed anywhere else at any time in the past where agents possessing brains resided, even if no trace of their existing brains remain. For instance basic social emotions, like disgust, while understood and expressed idiosyncratically in different cultures and instances are 'almost certainly universal,' and understanding their presence in the past through our knowledge of the brain informs what Smail calls a 'structural backdrop for many things we do and have done. They are interesting for how they tease or suggest,' (117-8). Smail's argument, here lamentably oversimplified, is that current scientific knowledge of the operation of the brain in facilitating the phenomenon of 'experience' in culture and history can therefore be used to recover some degree of historical experience. Natural science can tell us, Smail claims, much (if not more) about dignified, lived human experience as cultural documentation and attempts to expand the capacities of sociocultural history writing by arming it with new tools. Smail hopes it might not only inform the history of the deep past but of for example eighteenth century Europe and beyond (155-6).

The cultural, linguistic, and biological turns

It is however difficult to find the same enthusiasm for Smail's methodology when its attempts to rescue its subject form the void of the past are self-defeating. It uses normative scientific knowledge to elevate unique experiences whilst simultaneously homogenising them, falling foul of precisely the same faults that Thompson criticised 'old' social history for. Despite this Hunt is still an enthusiastic supporter. Like Smail and other sociocultural historians, Hunt is concerned foremost with the recovery of true experience from history (Burman 2012, 84-6). For Hunt, objective scientific knowledge of the world is true and transcends time. Citing identical scientific literature and deploying the same argument as Smail, Hunt has endorsed Smail's critique of the limitations of written sources, and that experience could be described trans-historically through objective scientific knowledge (Hunt 2009, 672-3).

However, in her support for the biological turn, Hunt draws the biological turn into wider historiographical debates. Hunt sees the biological turn as an ally against a 'spectre,' of a poststructuralist history writing programme (Cooter 2020; Kleinberg 2007). The 'linguistic turn' in history writing and poststructuralism since the 1980s came to critique the sociocultural history writing programme as only recovering a representation of historical experience and not recovering 'true' experience 'objectively' (Rorty 1967, 1; Brown 2013, 75-6). The biological turn for Hunt, provides a 'new paradigm,' through which to recovery experience, and an alternative methodology to 'linguistic turn'. 'Instead of the linguistic turn, with its emphasis on language, text, and representation as fundamental components in the construction of reality,' historians, Hunt argues, should utilise neuroscience and the knowable interplay between brains, bodies, and culture, which calls 'attention to gesture, action, movement, and unconscious or tacit forms of knowledge,' (Hunt 2014, 1586). Hunt's support for Smail and the biological turn, is cached in an historiographical debate in the 1990s: over the recovery of genuine 'experience' in history writing.

Critiquing the recovery of experience

Poststructuralism draws on a re-emergence of an earlier twentieth century tradition in structural linguistics which argued that humans could not directly access reality with the use of language. Reality was inconceivable outside this closed system. History writing itself became to be understood as a cultural practice of the present imbued with its own meaning. A poststructuralist history took existing forms of knowledge about 'experience' in the past in the present, explored and explained the rules, practices and institutions which perpetuated and reciprocated this knowledge, and interrogated the politics of its function (Cooter and Stein 2015, 13-5, 9). The historian was tasked with the interrogation of one's own construction of experience (Jay 2005; Foucault 1977). Only a history which took as its task, '*not* the reproduction and transmission of knowledge said to be arrived at through experience but to analyse knowledge production,' in the present could overcome the pitfall of assuming experience as essential in the past (Scott 1991, 782, 4-6, 97). While sociocultural historians 'wished to resurrect the individual and collective experiences of forgotten peoples from the condescensions of posterity,' poststructuralist histories aimed to understand the experiences of the present, and to challenge claims of authority (Cooter and Stein 2015, 19).

For Hunt, this was an issue, and threatened the capacity of historical practice to unproblematically recover anything more than representations of experience and not experience itself or truth (Kleinberg 2007). It threatened to undermine the entire sociocultural history writing project and the possibility of recovering genuine historical truth (Bonnell and Hunt 1999b, 3, 9, 11; Geoff 2005). For Hunt, experience cannot be just 'a linguistic event.' The past was 'real', the authority of empirical 'experience' carries significance, and its trace seems to Hunt to be recoverable.

Hunt and *Telling the truth about history*

Hunt's response to the poststructuralist critique can be found in her now quarter-century old jointly-authored volume, *Telling the Truth about History* (1994) with Appleby and Joyce. Hunt has recently affirmed she remains committed to this 1990s philosophy of history ('as might be expected,') (2018, 128). Since the publication of *Telling the Truth*, both Appleby (1997) and Hunt (2002) were elected president of the American Historical Association, which at least two commentators have noted gave *Telling the Truth* 'an almost official status as a statement of prevailing attitudes in the historical profession,' at the time (Kloppenberg 2004, 221; Kleinberg 2007); another commentator held that it represented the kind of standard middle-ground adopted by most (sociocultural) historians between despotic certainty and anarchism of perspectivism (Bunzl 1995). Elsewhere, *Telling the Truth* was praised by such stalwart historians as Eric Hobsbawm ([1997] 2007, viii). As this section will examine it remains the foundation for her support of the biological turn.

In *Telling the Truth,* the authors wished to retain a 'common sense,' certainty that truth is accessible and recoverable. The authors rejected the claims of poststructuralist critiques, that experience is not recoverable from the past, and science cannot be objective. They, however, wished to retain a scepticism of despotically authoritative narratives of old social history (Appleby, Hunt, and Jacob 1994, 4, 246). The solution Appleby, Hunt, and Jacob (7) propose is to attempt to balance objectivity and subjectivity by arguing 'that truths about the past are possible, even if they are not absolute.' Their understanding of 'truth' and objectivity, informed by pragmatism, allows the three authors to retain belief in historical inquiry and the scientific method as a productive and theoretically objective source of knowledge whilst simultaneously accepting its subjectivity.

Pragmatism in Telling the truth

Hunt et al. borrow Pragmatism's definition of truth (including scientific truth) in order to defend the sociocultural historical mission. Truth, in their definition, was not a total, absolute metaphysical truth. Instead, Hunt takes forwards a definition that truth was no more than a subjective sufficiency of understanding of a phenomenon so it could be controlled for practical use: a 'warranted assertion' in the vocabulary of pragmatist John Dewey (1938). To make these assertions, inquirers use their empirical senses to experience a real, but philosophically uninteresting, material world. This sensory experience becomes knowledge, and becomes a 'Warranted assertion' where knowledge assists the knower in coping with reality. Hunt therefore judged the value of 'truths' not in their ability to reflect external reality but by the utility of those truths in social contexts. This accommodates the scepticism of poststructuralism of the inaccessibility of objective external reality (Kloppenberg 1996, 101).

To ascertain truth from these subjective warranted assertions, Hunt follows Pierce's proposals to verify what can be considered true. An individual's assertions can be compared to their other peers' subjective 'truths' through an inclusive and democratic discourse, to assess their collective 'accuracy and completeness,' (Appleby, Hunt, and Jacob 1994, 255-7; Kloppenberg 1996, 103-4). This 'democratic community of inquirers,' would arrive at consensus by making comparisons between their subjective experiences. The belief which was 'fated to be ultimately agreed to by all who investigate,' was the truth (Murphy 1990, 3-4; Peirce [1878] 1986, 273). For Hunt, this meant that the experiences of the past might be complied by actors and by the historian. The historian could then assess in dialogue with evidence of experience and other historians in a community of inquirers what might be considered 'true'.

For Hunt et al. this made meaningful 'truths' recoverable for sociocultural history (1994, 197). Memory was entirely unproblematic as an indicator that there truly were empirical

'experiences' of material objects in the past; and the three authors offered no further justification for this belief other than that it is the 'commonsensical view,' (258-9). From these memories, an understanding could be deduced by comparison with the rest of the collated experiential evidence from others who experienced the same event and judged on account of their accuracy and completeness relative to other experiences. Hunt et al. argued it is possible to judge the 'standards' of the validity of the correspondence of these perceptions to reality, even while judging them based on historically contingent standards (283). If the experience is mutually agreed by a community of inquirers, the experience may be considered 'true' (247-48). Hunt's use of pragmatism therefore allows the historian to continue to write history and what she considers discover genuine historical facts despite poststructuralist critiques.

Science, objectivity and subjectivity

This epistemology applied to scientific inquiry too which was prioritised by Hunt (following Pierce) as the most methodologically rigorous and empirically precise of all democratic collectives of inquirers. This included technologies of measurements but also scientific publishing practices such as peer review (Appleby, Hunt, and Jacob 1994, 281). The authors did not fully deny the suggestion of 'skeptics,' that science is 'socially or linguistically constructed, or implicated in power structures to maintain western dominance over the world,' (1994, 8; 1995, 677). They admit scientists are implicated in linguistic conventions and by discourses that privilege theoretical presuppositions and social values (1994, 195-97). However, through their pragmatist theory of objectivity, the three authors (1995, 677) argue they have shown:

> How science could be both socially constructed, i.e., biased, gendered, close-minded, ideologically charged, and still on occasion arrive at replicable truths worth preserving and even cherishing […] while rejecting altogether the notion

> that such histories undermine the truth content of either science or historical scholarship.

Science could be subjective as poststructuralist contended, and still provide the necessary universal knowledge of brains to read the 'documents' necessary to write Smail's deep history. Hunt et al. were even in 1995 'pleased to have science as an ally,' in the pursuit of historical truth (250).

Furthermore, a pragmatic 'democratic community of inquirers' is not that far divorced from Daston and Galison's definition of objectivity: that subjective judgements of the features of 'working objects' exhibit characteristics that when agreed as valid by a democratic community of inquiry can be considered 'true'. It would be entirely possible to accept Daston and Galison's definition of objectivity, accept Pierces' pragmatism, and advocate for the biological turn entirely consistently. This points to a line of inquiry which has begun to examine the influence of pragmatism in the history of science. A major influence on Daston (Bycroft 2017), Ian Hacking (2004, 2007) rejected the label (in a qualified way) of a pragmatist but has written admiringly of Pierce and pragmatism, and Bojana Mladenović (2017) has explored an indirect influence of Pierce on Thomas Kuhn's 'paradigm shifts'. The relationship between pragmatism, particularly Pierce, and the history of science seems to be understudied. It suggests that the biological turn may have an appeal beyond an uncritical scientism.

Hunt's historical philosophy recognises scientist's knowledge of brains was and is subjective, agreeing with poststructuralist concerns. However, elements of these subjective knowledge of brains are warranted assertions and have been ratified as objective by the democratic community of inquiry that is the scientific community. Those agreed shared elements of knowledge of the brains can be held to be true and objective. Since it is objective and transhistorical, the biological turn can use scientific knowledge and understanding of the

operation of the brain to provide evidence of historical experience of how all actors with brains operated in the past. There is a remarkable consistency between Hunt's historical philosophy and the Smail's neurohistorical method.

Critiquing Hunt's pragmatism and the 'biological turn'

Since the biological turn and Hunt's historical philosophy are not new, the old critiques of sociocultural history still apply and can be usefully extended to the biological turn. The first criticism stems from pragmatism itself (Jenkins 1995). The foremost pragmatist that Hunt et al. cite, Putnam, argued (1992) that pragmatic, absolute truth might be 'fated' and 'idealised' to emerge from a perfect community of all inquirers. For neo-pragmatic philosopher Richard Rorty (1993), such a perfect community of inquiry is suspiciously unachievable. No 'perfect' community of all inquirers could ever assemble other than metaphysically. In reality, any revealed 'truth' is only 'objective' within a predefined community of inquirers who agree on what is 'warranted' about the finite subjective assertions assembled. In the context of sociocultural history writing and the biological turn, this means Hunt's appeals to pragmatism only provides an understanding of science history which is not truth but a limited 'warranted assertion', a sufficiency of understanding of history for a limited group of individuals. It would be a mistake to equate this with absolute truth. This is an unresolved problem for Hunt and the 'biological turn' in its mission to arrive at objective 'truth' when reading the documentation of the past in transhistorical brains.

Since the pragmatic 'truth' of Hunt and Smail only achieves limited 'consensus' rather than 'truth', an analysis might consider on what grounds this consensus is reached and what politics such a consensus serves. Positioning themselves as opposing ushc critique, Hunt et al. resist an investigation and historicisation of the purposes of their 'truths' (Appleby, Hunt, and Jacob 1995, 678). Hunt and Smail's 'truths' firstly provide an argument for the ability of sociocultural history writing to recover 'experience' unproblematically from the records of the

past. Secondly, they strengthen the rhetorical ability of science to unproblematically describe objects universally (Cooter and Stein 2013, x). Following British historiographer Keith Jenkins, the pertinent question is to ask '*cui bono* – in whose interests?' (1995, 179; Andress 1997). What social and political work is done when a history writing project pronounces the status of (culturally contingent) neuroscience and the rest of the life sciences as 'true'?

Outside of the feminist creed that 'the personal is political,' personal beliefs (such as the methodology of history one advocates) are not usually analysed for their role in constructing personally preferential social and political power relationships (Jay 2005, 244). There runs a risk of being accused of *ad hominem.* Yet power relationships are found in 'the most unpromising places,' (Foucault 1991, 76). The politics of Hunt's philosophy have been highlighted by a number of commentators: in her astute review, feminist historian Bonnie G. Smith (1995) highlights that the index of *Telling the Truth* privileged a conversation about historical truth primarily written by men. Smith made this argument 'not to show the authors as misogynist but to show that the standards of truth, realism, and objectivity are still taken to rest on the works of men.' Gender historian Joan Scott (Martin, Scott, and Strout 1995, 332-3) argued in her review of *Telling the Truth*, all Hunt et al. achieved in their appeal to pragmatism was to permit historians to 'practice science according to an absolutist model that the authors themselves have elsewhere described as outmoded!' A criticism of neuroscience more broadly by philosopher of science Jan Slaby (2015, 16) argues the objective rhetoric of neuroscience and genetics offers current and future 'predictive models' into the unknown of the brain and body, believed to be more objective than previous sociological models, to be bought and funded by neoliberal knowledge markets. Hunt and Smail are implicated in the funding arrangements the teaching of history enjoys (or languishes under) in the existing systems of higher education

(Andress 1997, 312).[6] The result is that criticism of the biological turn returns to that of Cooter (2020), where it becomes a programme demonstrating the epistemic primacy of neuroscientific techniques to know the self.

Conclusions

The biological turn from this perspective looks far from innovatory and rather old. It represents a return to a justification of sceintific and historical knowledge as objectively true. Defenders of the biological turn might point towards the more progressive politics that seem to inform its argument. David Christian sees his contribution to the biological turn as a creation myth and a 'provisional,' account and only the first step: 'the next is 'criticizing it, deconstructing it, and perhaps improving it,' (Christian 2005, 6-11), though Ian Hesketh (2014) has cautioned that Christian's myth in its wholesale appropriation of scientific facts is void of constructive reflective irony or playfulness. Smail, at least initially, launches his project from a position of criticism of the limitations of Eurocentric and elitist documentation to his archival research. (2011, 16, 55-77). William McNeill (Christian 2011a, xv) has identified that the biological turn fulfils what in 1986 he considered the 'moral duty' of the historical profession; 'instead of enhancing conflicts, as a parochial historiography inevitable does,' by defining 'us' and 'them,' it fosters individual identification with triumphs of all humanity (McNeill 1986, 7). In a time of anthropogenic climate change and the coronavirus pandemic a narrative stressing universal belonging in order to coordinate humanity and tackle global challenges seems attractive. However, even the admirable attempts to recover historical experiences of the British working class in E. P. Thompson's 'new' social history were nevertheless criticised by Scott for reifying class as a 'more salient determinant,' of identity over gender, which ends up essentialising class to legitimise certain forms of current politics and sociability (1991, 782, 84-86, 97). Given that

[6] In fairness the present author, writing at a time deep uncertainty for early career researchers in the coronavirus pandemic (Baker 11 June 2020), is currently attempting to signal that he would very much like to be *more* implicated in the funding arrangements the teaching of history enjoys.

sceintific knowledge is far from value-neutral it would be completely inadequate to ignore these lessons when the problems the biological turn supposes to tackle are so vast and so important.

Ultimately, as Steve Fuller identifies, the question of support for the 'biological turn' is 'whether the historian is willing to share a responsibly for constructing narrative by which a science legitimizes itself as a form of knowledge.' (Fuller 2014). If history is to be most useful in tackling the global problems that now seem inevitable in an Anthropocenic future then it must be prepared to speak much more loudly and confidently. History would be a much stronger partner in tackling these issues it was prepared to take on the role of the joint-planner and shrewd consultant, engaging in a two-way dialogue and willing say 'no,' to the overoptimistic idealist scientist, than as a charlatan yes-man.

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References

Andress, David. 1997. "Beyond irony and relativism: What is postmodern history for?" *Rethinking History* 1 (3):311-26. doi: 10.1080/13642529708596321.

Appleby, Joyce, Lynn Hunt, and Margaret Jacob. 1994. *Telling the Truth about History*. London: W. W. Norton and Company.

———. 1995. "Response." *Journal of the History of Ideas* 56 (4):675-80. doi: 10.2307/2709999.

Baker, Simon. 2020. "HE financial crisis risks 'lost generation of researchers'." Times Higher Education, Accessed 11 June 2020. https://www.timeshighereducation.com/news/he-financial-crisis-risks-lost-generation-researchers.

Bonnell, Victoria E., and Lynn Hunt. 1999a. *Beyond the Cultural Turn: new directions in the study of society and culture*. Berkeley: University of California Press.

———. 1999b. "Introduction." In *Beyond the Cultural Turn: new directions in the study of society and culture*, edited by Victoria E. Bonnell and Lynn Hunt. Berkeley: University of California Press.

Brown, Callum G. 2013. *Postmodernism for historians*. London: Routledge.
Bunzl, Martin. 1995. "Pragmatism to the Rescue?" *Journal of the History of Ideas* 56 (4):651-9. doi: 10.2307/2709996.
Burman, Jeremy T. 2012. "History from within? Contextualizing the new neurohistory and seeking its methods." *History of Psychology* 15:84-99.
———. 2014. "Bringing the brain into history: behind Hunt's and Smail's appeals to neurohistory " In *Psychology and History: Interdisciplinary Explorations*, edited by Christian Tileagă and Jovan Byford. Cambridge: Cambridge University Press.
Bycroft, Michael Trevor. 2017. "Ideals and Practices of Rationality – An Interview with Lorraine Daston." *Exchanges: the Warwick Research Journal* 4 (2):173-88.
Casper, Stephen T. 2014. "History and Neuroscience: An Integrative Legacy." *Isis* 105 (1):123-32. doi: 10.1086/675554.
Christian, David. 2005. *Maps of Time: An Introduction to Big History*. London: University of California Press.
———. 2010. "The Return of Universal History." *History and Theory* 49 (4):6-27.
———. 2011a. *Maps of Time: An Introduction to Big History*. 2011 ed. Berkeley,: University of California Press.
———. 2017. "The history of our world in 18 minutes." TED, Accessed 06 August. https://www.ted.com/talks/david_christian_big_history/transcript.
Cooter, Roger. 2014. "Neural Veils and the Will to Historical Critique: Why Historians of Science Need to Take the Neuro-Turn Seriously." *Isis* 105 (1):145-54. doi: 10.1086/675556.
———. 2020. "The Importance of Gramsci Today: The 'New Lorians' and the Biological Reduction of History." In *Cultural Hegemony in a Scientific World: Gramscian Concepts for the History of Science*, edited by Massimiliano Badino and Pietro Daniel Omodeo. Leiden: Brill.
Cooter, Roger, and Claudia Stein. 2013. *Writing History in the Age of Biomedicine*: Yale University Press.
———. 2015. "Introduction: The vicissitudes of fundamental change." In *The History of Medicine: Critical Concepts in Historical Studies: Volume 1: Ancient and Medieval Medicine*, edited by Roger Cooter and Claudia Stein. London: Routledge.
Crosby, Alfred W. 1995. "The Past and Present of Environmental History." *The American Historical Review* 100 (4):1177-89. doi: 10.2307/2168206.
———. 2003. *The Columbian exchange : biological and cultural consequences of 1492*. 30th anniversary ed. London: Praeger.
———. 2004. *Ecological imperialism: the biological expansion of Europe, 900-1900*. 2nd ed. Cambridge: Cambridge University Press.
Daston, Lorraine. 2009. "Science Studies and the History of Science." *Critical Inquiry* 35 (4):798-813. doi: 10.1086/599584.
Daston, Lorraine, and Peter Galison. 1992. "The Image of Objectivity." *Representations* (40):81-128. doi: 10.2307/2928741.
Daston , Lorraine, and Peter Galison. 2007. *Objectivity*. London: MIT Press.
Davis, Natalie Zemon. 2001. *The return of Martin Guerre*. Cambridge, Mass: Harvard University Press.
Dawkins, Richard. 2006. *The selfish gene*. 30th anniversary ed. Oxford: Oxford University Press.
Dewey, John. 1938. *Logic: The Theory of Inquiry*. London Holt, Reinhart and Winston.
Diamond, Jared M. 1998. *Guns, germs, and steel: a short history of everybody for the last 13,000 years*. London: Vintage.

Fass, Paula S. 2003. "Cultural History/Social History: Some Reflections on a Continuing Dialogue." *Journal of Social History* 37 (1):39-46.
Fitzhugh, Michael L., and William H. Leckie. 2001. "Agency, Postmodernism, and the Causes of Change." *History and Theory* 40 (4):59-81.
Foucault, Michel. 1977. *Discipline and Punish: The Birth of the Prison*. Translated by Alan Sheridan. New York: Vintage Books.
———. 1991. "Nietzsche, Genealogy, History." In *The Foucault Reader*, edited by Paul Rabinow, 76-100. London: Penguin.
Fuller, Steve. 2014. "Neuroscience, Neurohistory, and the History of Science: A Tale of Two Brain Images." *Isis* 105 (1):100-9. doi: 10.1086/675552.
Geoff, Eley. 2005. "‘ Is All the World a Text? From Social History to the History of Society Two Decades Later ’." In *Practicing History: New Directions in Historical Writing After the Linguistic Turn* edited by Gabrielle Spiegel. London: Routledge.
Gould, Stephen Jay. 1996. *The Mismeasure of Man: Revised and Expanded Edition*. Revised and Expanded Edition ed. London: Penguin Books.
Hacking, Ian. 2004. "Between Michel Foucault and Erving Goffman: between discourse in the abstract and face-to-face interaction." *Economy and Society* 33 (3):277-302. doi: 10.1080/0308514042000225671.
———. 2007. "On Not Being a Pragmatist: Eight Reasons and a Cause." In *New Pragmatists*, edited by Cheryl Misak. Oxford: Oxford University Press.
Hall, John. R. 2003. "Cultural History is Dead (Long Live the Hydra)." In *Handbook of Historical Sociology*, edited by Gerard Delanty and Engin F. Isin. London: SAGE publications.
Hesketh, Ian. 2014. "The Story of Big History." *History of the Present* 4 (2):171-202. doi: 10.5406/historypresent.4.2.0171.
"History Meets Biology: Introduction." 2014. *The American Historical Review* 119 (5):1492-9. doi: 10.1093/ahr/119.5.1492.
Hughes-Warrington, Marnie, David Christian, and Merry Wiesner-Hanks. 2019. "The big and the small of it: a conversation on the scales of history between David Christian, Merry Wiesner-Hanks and Marnie Hughes-Warrington." *Rethinking History* 23 (4):520-32. doi: 10.1080/13642529.2019.1656925.
Hunt, Lynn. 2009. "The Experience of Revolution." *French Historical Studies* 32 (4):671-8. doi: 10.1215/00161071-2009-015.
———. 2014. "The Self and Its History." *The American Historical Review* 119 (5):1576-86. doi: 10.1093/ahr/119.5.1576.
———. 2018. *History: why it matters*. Cambridge: Polity Press.
Jay, Martin. 2005. *Songs of Experience: Modern American and European variations on a universal theme*. London: University of California Press.
Jenkins, Keith. 1995. *On 'What is History?': from Carr and Elton to Rorty and White*. London: Routledge
Kleinberg, Ethan. 2007. "Haunting History: Deconstruction and the Spirit of Revision." *History and Theory* 46 (4):113-43.
———. 2016. "Just the Facts: The Fantasy of a Historical Science." *History of the Present* 6.
Kloppenberg, James T. 1996. "Pragmatism: An Old Name for Some New Ways of Thinking?" *Journal of American History* 83 (1):100-38. doi: 10.2307/2945476.
———. 2004. "Pragmatism and the practice of history: from Turner and Du Bois to today." *Metaphilosophy* 35 (1/2):202-25.
Law, John. 2007. "Making a Mess with Method." In *The SAGE Handbook of Social Science Methodology*, edited by William Outhwaite, Turner and Stephen P., 595-606. London: SAGE Publications Ltd.

Malik, Kenan. 2000. *Man, Beast and Zombie: what science can and cannot tell us about human nature*. London: Weidenfeld & Nicolson.
Martin, Raymond, Joan W. Scott, and Cushing Strout. 1995. "Review." Review of *Telling the Truth about History, Joyce Appleby, Lynn Hunt, Margaret Jacob. History and Theory* 34 (4):320-39. doi: 10.2307/2505405.
McNeill, William H. 1986. "Mythistory, or Truth, Myth, History, and Historians." *The American Historical Review* 91 (1):1-10. doi: 10.2307/1867232.
———. 1991. *The Rise of the West: A History of the Human Community: With a Retrospective Essay*. Chicago: University of Chicago Press.
Mladenović, Bojana. 2017. *Kuhn's Legacy: Epistemology, Metaphilosophy, and Pragmatism*: Columbia University Press.
Murphy, John P. 1990. *Pragmatism: From Peirce to Davidson*. Oxford: Westview Press.
Patel, Joshua. 2017. "The 'Biological Turn' in History Writing." *Exchanges: the Warwick Research Journal* 4 (2):280-97.
Peirce, Charles Sanders. [1878] 1986. "How to Make Our Ideas Clear." In *Writings of Charles S. Peirce: A Chronological Edition*, edited by Christian J. W. Kloesel, Max H. Fisch, Lynn A. Ziegler, Nathan Houser, Don D. Roberts, Ursula Niklas, Aleta Houser and Edward C. Moore, 257–76. Indiana University Press: Bloomington.
Pinker, Steven. 2017. "Science Is Not Your Enemy." New Republic, Accessed 26 July. https://newrepublic.com/article/114127/science-not-enemy-humanities.
Putnam, Hilary. 1992. *Realism with a Human Face*. London: Harvard University Press.
Renfrew, Colin. 2012. "Bridging the Millennia." *American Scientist*.
Rorty, Richard. 1967. "The Linguistic Turn: Recent Essays in Philosophical Method." In. London: The University of Chicago Press.
———. 1993. "Putnam and the Relativist Menace." *The Journal of Philosophy* 90 (9):443-61. doi: 10.2307/2940859.
Schwaller, John F. 2015. "Environmental Historian: An Interview with Alfred W. Crosby." *The Americas* 72 (2):309-17. doi: 10.1017/tam.2015.5.
Scott, Joan W. 1991. "The Evidence of Experience." *Critical Inquiry* 17 (4):773-97. doi: 10.1086/448612.
Shryock, Andrew, and Daniel Lord Smail. 2011. *Deep history: the architecture of past and present*. Berkeley, Calif. ; London: University of California Press.
Slaby, Jan. 2015. "Critical neuroscience meets medical humanities." *Medical Humanities* 41 (1):16.
Smail, Daniel Lord. 2000. *Imaginary cartographies: possession and identity in late medieval Marseille*. London: Cornell University Press.
———. 2003. *The Consumption of Justice: emotions, publicity, and legal culture in Marseille, 1264-1423*. Ithaca, NY: Cornell University Press.
———. 2008. *On Deep History and the Brain*. London: University of California Press.
———. 2014. "Neurohistory in Action: Hoarding and the Human Past." *Isis* 105 (1):110-22. doi: 10.1086/675553.
Smith, Bonnie G. 1995. "Whose Truth, Whose History?" *Journal of the History of Ideas* 56 (4):661-8. doi: 10.2307/2709997.
Stadler, Max. 2014. "Neurohistory Is Bunk?: The Not-So-Deep History of the Postclassical Mind." *Isis* 105 (1):133-44. doi: 10.1086/675555.
Stein, Claudia. 2018. "Introduction: Currents in the Construction of the Cultural History of Early Modern Medicine." In *Cultural History of Medicine, vol. 2. Renaissance 1450-1630*. London: Bloomsbury.
Surkis, Judith. 2012. "When Was the Linguistic Turn? A Genealogy." *The American Historical Review* 117 (3):700-22. doi: 10.1086/ahr.117.3.700.

Tallis, Raymond. 2011. *Aping Mankind, Neuromania, Darwinitis and the Misrepresentation of Humanity*. Durham: Acumen.
Thompson, Edward Palmer. 1980. *The Making of the English Working Class*. London Gollancz.