

Global Histories of Science: Practice, Belief, and Materials

'All good history of science must be grounded in global history.'ⁱ Although this statement only appears in the epilogue, this sentiment guides Poskett's exciting and entertaining history of phrenology. Composed of six chapters: 'Skulls', 'Casts', 'Books', 'Letters', 'Periodicals', and 'Photographs', Poskett narrates the rise of phrenology through the objects that constituted its diffusion and communication across continents. Sailors barter for skulls in the Pacific; porcelain phrenological busts are packaged and delivered to anxious recipients in India and the Americas, lithographic prints become handy and portable teaching aides to itinerant lecturers traversing the Atlantic, while the development of the camera provides a new technological means of compiling data on the human races. As Secord argued in 2004, 'All evidence from the past is in the form of material things.'ⁱⁱ Eschewing focus on the local political affiliations of phrenologists in Edinburgh, London, Paris, and Philadelphia, *Materials of the Mind* seeks to uncover the ways in which phrenology contributed to the development of the idea of the 'global' itself. The book is riveting, not in the least because Poskett juxtaposes the episodes explored with efforts to resolve some of the large problems facing global intellectual history, and the project of producing a global history of science. As a global history of objects and materials in transit, *Materials of the Mind* provides a successful and welcome respite from the narrow confines of the asylums, societies, and institutions where phrenology is usually examined. In its petition that all history of science be grounded in global history, *Materials of the Mind* makes a compelling case for both (a) approaching the history of ideas through their material instantiations, and (b) developing narratives that focus on the connections these materials establish, which (as Poskett shows) provide a new way of understanding how global connections and networks constitute the 'local' within Europe.

Why use phrenology to advance this methodological approach? As Poskett explains, Roger Cooter's classic work *The Cultural Meaning of Popular Science* used phrenology to demonstrate that science shouldn't be viewed as 'epiphenomenal to society.'ⁱⁱⁱ In other words, science (particularly sciences like phrenology) played active roles in shaping reform programmes, political conflicts, and justifying imperial programmes. Writing in 1984, Cooter set out to redirect the aims and goals of the history of science. He distinguished between 'the impossible' – an effort to reconstruct the conscious life, beliefs, and behaviour of those that absorbed phrenological teachings, opting instead to explore 'the normative assumptions contained within and conveyed throughout scientific knowledge.'^{iv} While Cooter regards the reconstruction of consciousness and belief of past actors impossible, that isn't to say he regards belief and conscious experience as causally inert or historically irrelevant; the premise of *The Cultural Meaning of Popular Science* is, indeed, that the horizons imposed upon consciousness by phrenological science in the 19th century mattered, and they mattered for many people beyond the confines of a handful of famous authors. This is important, as the turn to materials and objects in intellectual history in itself doesn't yet decide the role consciousness, belief, and experience ought be given—whether these are epiphenomenal concepts that distract intellectual historians from attending to the material reality that constituted the past, or if we are turning to materials and objects as a means of getting a little closer to the impossible task.

Materials of the Mind explores the normative powers of phrenological science through episodes set on different continents and different times. The phrenologist W.D. Maxwell, reported in newspapers in Barbados as 'a coloured interpreter of science', is one of

many actors that appear in this history that espouse phrenology despite the fact that its tenets attribute aesthetic, moral, and mental superiority to a select elite that is largely populated by white European males.^v We encounter the hypocrisy of the Fowler brothers in America, two business-minded exponents of phrenology whom, despite their belief in the abolitionist cause, mourned the loss of business in the southern states at the outbreak of the Civil War. And we also are introduced to efforts by colonized subjects in Bengal and in Capetown to encourage the practice of phrenology in their local communities, attempting to re-interpret and negotiate the diagnosis made by phrenologists such as Combe on the limits and faults of the Indian skull. In these chapters, Poskett is careful to show how phrenology served the racist and oppressive goals of empire, while at the same time exploring how phrenology itself was not an inherently European construct, but was assembled out of materials produced on many continents. Poskett challenges us, 'In what sense can we study botany in Eighteenth-century Paris, when Paris itself was a product of a French Empire incorporating the West Indies and the Pacific?'^{vi} For Poskett, eighteenth (and nineteenth)-century science ought be viewed as global, rather than inherently European, as local sites such as Europe are, Poskett argues, composed of global connections.

This claim is central to everything Poskett argues but it deserves a bit of backstory, as one of the main tensions in *Materials of the Mind* is as to whether phrenology remains an inherently European concept in all its international elaborations and appropriations, or if it truly is a global concept that is better understood by appeal to a network of connections and material vehicles that underwrote phrenological ideas and aims. In 1967, the historian George Basalla published his (now infamous) essay 'The Spread of Western Science.'^{vii} Basalla proposed to put forward a model to explain how science spread from Europe, involving (1) a phase during which a non-scientific society becomes the object of science, (2) a phase of *in situ* colonial science which operates in relation to institutions and powers in Europe, and (3) the establishment of independent scientific traditions. Basalla argued that attention should be paid to scientific practices outside of Europe, but he also viewed its history as a story of diffusion. Kapil Raj recognised Basalla's thesis as dependent upon an interpretation of science as having found its birth in Europe during the scientific revolution which he believes was a product of Cold War-era historiography; for Warwick Anderson, Basalla was working to continue a research programme begun by George Sarton.^{viii} Many global intellectual historians use Basalla's thesis as a landmark or a strawman to identify the kind of methodologies they are working against. Sujit Sivasundaram calls Basalla's thesis 'the most visible casualty' of attempts to write a history of the spread of Western science.^{ix} Basalla felt misunderstood by his critics, and wrote that he had never viewed the diffusion of science as 'beneficient, progressive, and superior' to the ways of knowing in non-European countries, nor did he believe this diffusion to be apolitical.^x He did, however, affirm that 'modern science can be identified by a central core of beliefs, practices, texts, institutions, and personnel whose origins and development are well within the confines of recorded history' – technology, he determined, was different. 'Technology is much more amorphous than is science, it is much older than science.'^{xi} The challenge from Basalla was to globalise the history of science while maintaining a meaningful distinction between science and technology. That challenge might not be worth very much today—particularly if we develop the history of scientific concepts through scrutiny of objects, materials, and instruments. As Francesca Bray has shown, there are rich narratives to be uncovered in the global history of technology, and these in turn will challenge and reshape the history of science.^{xii} But whatever one's verdict on Basalla's 1967 model, his challenge that it is far easier to develop global histories of

technology than it is to develop global histories of science is one that Poskett's work appears to strike at—for Poskett is approaching phrenology as a science that is through-and-through supervenient on its material objects and the technologies involved in practicing, communicating, and demonstrating phrenological concepts. The difficult question is Cooter's impossible one—do we also care about belief, about the first-person experience and comprehension of concepts? As a phrenological bust or racial drawing makes its first appearance in a new corner of the globe, are we trying to gain a means of understanding how it felt to meet this science, or to take it up?

Poskett explores these deeper questions in places—particularly the question of how the actors experienced the material objects and instruments of phrenology as connecting them to a global movement. *Materials of the Mind* is not merely a history of phrenology; it historicizes the concept of the global, seeking to show how the challenges and frustrations of communicating books, pictures, and casts to an international audience helped in part to shape the communication pathways that constitute the global as we experience it today. Drawing on the material history of periodicals, particularly their international trade and consumption, Poskett argues that 'phrenologists used the periodical press to simultaneously imagine themselves as part of national and global communities in print.'^{xiii} Through correspondence, phrenologists persuaded one-another that the science represented the means of global reform.^{xiv} The medium of plaster, used for casts of skulls and heads, provided phrenology with a medium through which evidence could be communicated that was deemed secure and reliable by all parties.^{xv} Practices of death and burial the world over became accessories to the collection of phrenological specimens.^{xvi} Global histories such as this help us to understand that concepts we might *prima facie* recognise as European ('phrenology') are in fact products of the global ties and connections that constituted Europe during the scientific revolution.

A second virtue in this approach is that it appears to side-step many of the problems that accompany translation. As Paul Weller argues, in the case of translating the word 'nature' into Chinese, there was no equivalent term in the language prior to the twentieth century, 'as we might expect for concepts carrying such a heavy cultural and historical load.'^{xvii} The term used today to translate nature, *ziran*, was an older term that was 'wrenched from earlier meanings to serve its new purpose.'^{xviii} Material history, at first glance, seems to side-step these problems of translation. It also seems to free us from some of the problems inherent in translating ideas. After all, the exchange of phrenological casts, photographs, and instruments doesn't depend upon identifying commensurability between the concept of 'nature' as deployed by phrenologists in Edinburgh and the concept of 'ziran' as deployed by students of phrenology a century later in China. Rather, the trade and communication of these objects and instruments should be used to explain the demand for translation. Translations, in turn, can be viewed again at the level of material objects in the shape of books, periodicals, and letters that enjoy further traffic and travel. What role is phrenology playing in the inner lives of all these different people, how does it inform their self-understandings, or their experiences of others? These questions are explored when and where the material record permits; but they also seem to belong to a set of immaterial demands historians ought not make upon the sources at hand.

The strengths of this approach are numerous; and they also help provide an immediate frame of reference for intellectual historians troubled by the question of to what extent the ideas and concepts they explore were truly deployed and taken up in society. The answer to this question, Poskett and Secord contend, is provided by the material history of

the objects that provide vehicles for these ideas. As James Secord argued in 2004, 'We have tended to assume that the works we study are universally available to all relevant readers and that all those who read them have access to knowledge of the author's person...this is rarely the case.'^{xix} Following in the footsteps of books, skulls, casts, and photographs as they travel about the world provides a new framing for the communication of knowledge whose borders are both expansive and well-evidenced. Sometimes, Poskett admits, the effort to identify a global audience is frustrated by the evidence that a journal or a book enjoyed little success, or that there didn't seem to be any casts, busts, calipers, or skulls in a given country for many decades after the first appearance of phrenological literature. The humility that this approach demands makes its arguments all the more persuasive and convincing.

Materials of the Mind is also a history of race. It explores the racism inherent in phrenological categories and practice, but it also works to explore the wider reception of these works. The disconnected moments highlighted on the map over the course of the book are drawn together by the thesis that 'historical actors deployed phrenology when confronted with both complementary and conflicting moral worlds.'^{xx} Phrenology was a shared vocabulary of reform, taken up in many places where moral and cultural systems found themselves at points of conflict or domination. In the chapter 'Casts', Poskett follows the complex journeys of the cast of the head of the Haitian slave Eustache Belin, as its significance is debated in France, Britain, and America. Poskett explores how the head of Belin came to hold different meanings in relation to Haiti's revolution, American slavery, and debates over racial science. As the bust sometimes travelled without the accompanying biography of Belin himself, Poskett argues that the bust provides an ideal case for his thesis that phrenological concepts reduce to the objects that convey them from scene to scene, here being used in relation one reformist cause, there another. In Chapter Six, discussing photography, Poskett traces the history of *A Phrenologist Among the Todas*, a book written by the phrenologist William Marshall in the early 1870s. Carefully reconstructed, this chapter follows the education, training, and travels of Marshall in India, and proceeds to examine the different (and contradictory) receptions of his work in different cities, from Paris to Madras. Poskett's suggestion is to treat photography 'as part of a global history of material exchange', and by tracing the reception of Marshall's work in India, Poskett concludes that while 'it was a book about India...It was also a book for India.'^{xxi} Sources providing a history of Indian readership are limited, but Poskett shows that members of the local elite read his work by drawing upon subscriber's lists.^{xxii}

By placing emphasis on exchange, connection, and translation, global intellectual history can show science to have a diverse and complex history that transcends the borders of Europe. But at the same time, it struggles to narrate how ideas become instruments of oppression, particularly in their imposition upon others. If phrenology (and by extension, craniometry, ethnology, and racial science) are essentially global, do we lose something essential in explaining how these scientific practices were enlisted to defend and define empire? Does the local become important again at the moment where we are trying to determine culpability? As Anderson puts it, 'As we decolonise knowledge and disperse scientific agency, we also discard, necessarily, old imperial models of diffusion and dissemination. How might we find substitutes, without recuperating customary sovereignties?'^{xxiii} One approach, adopted in places by Poskett, is to focus on commerce and financial motivations. In his discussion of the Fowlers, Poskett argues that the imperial ambitions of America enabled them to 'transform their national business into an international empire.'^{xxiv} Markets involve activity on both the consumer and the producer side—they

perhaps sidestep the passivity implied by diffusion models. But they also blur the distinction between commodities on a market and the imposition of concepts and ways of thinking that aren't always best captured by appeal to markets and materials. To the challenge that 'phrenology' is an inherently European idea, developed by intellectual institutions located in cities such as Edinburgh, Paris, and Vienna, Poskett's reply is that there is never any context that is truly local (because all local sites are themselves constituted by global networks and ties). Thus, he strikes a balance throughout the book, showing how phrenology was both an instrument of imperial power and at the same time fashioned by many actors outside of Europe. This is a tense balance: it provides a means for revising traditional European narratives within the history of science to include non-European actors, challenging European exceptionalism. At the same time, the global approach seems to weaken the argument of Cooter that phrenology embodied a normative framework that pressed people to hold themselves to witness against a moral, aesthetic, and physiological ideal. If phrenology is through-and-through global, how does it acquire its otherness, its foreignness, its power to impose? Global intellectual historians such as Andrew Sartori sometimes liken ideas to currency—they are minted at a certain time and place, but these details aren't important if we are interested in their role in transactions and exchanges.^{xxv} Does phrenology, as a form of intellectual currency, remain an inherently European way of seeing the world through its transactional life?

Similar questions can be asked of the nature of some of the connections and networks that Poskett uncovers. While not included in the title, *Materials of the Mind* is inevitably also a history of religion. But here lie some of the most difficult aspects around the global history of phrenology. There are moments in *Materials of the Mind* where the intersections between Christianity and phrenology become significant aspects of Poskett's central thesis. In the chapter 'Periodicals' we learn that missionaries such as Justus Doolittle (active in Fuzhou) and W.W. Hicks (active in Northeastern India) were both instrumental in bringing the *American Phrenological Journal* to Asia.^{xxvi} In his discussion of the collection of skulls from Inuit tribes, Poskett draws upon entanglements between missionary activities and exploration.^{xxvii} Again, in his discussion of the Calcutta Phrenological Society, the ties between phrenology and Christianity become essential, as the Society promoted the use of English, a language associated by many Hindu reformers with Christian missions.^{xxviii} Outside of Christianity, belief and practice often appear—for example, in the epilogue, Poskett briefly explores the ancient traditions of skull-reading and fortune telling in China that phrenology disrupts in the early twentieth century.^{xxix} For Poskett, the activities of churches are examined on the same level as the penny post, steam presses, and societies—they are included insofar as they establish connections by which phrenology took on its global reach. Staying true to his methodological framework, Poskett doesn't explore the ideological joints between Christian thought and phrenology. And yet, it seems reasonable to wonder if its dependence upon missionaries and missionary networks makes terms like conversion important. Questions concerning belief are outside the scope of *Materials of the Mind*; but it has raised important questions about how self-identity, belief, and conversion should be treated in the effort to write global histories of science. Maxine Berg argues that the goal of global history is to 'to convert Europe from a knowing subject to an object of global history.'^{xxx} Does following the connections established by these missionary networks not situate us within Europe as a knowing subject?

Materials of the Mind is boldly written and presents itself as a model for future work in the global history of science. It proposes that there is future work to be done in seeking to

synthesise global intellectual history with ‘global histories of connection’—the history of science can only benefit from pursuing the direction that Poskett directs it towards.

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ⁱ Poskett, James. *Materials of the Mind: Phrenology, Race, and the Global History of Science*. Chicago: Chicago University Press, 2019.

ⁱⁱ Secord, James. “Knowledge in Transit.” *Isis* 95, no. 4 (2004): 654-672, p.665

ⁱⁱⁱ Poskett., *Materials of the Mind*, p.6; Cooter, Roger. *The Cultural Meaning of Popular Science: Phrenology and the Organization of Consent in nineteenth-century Britain*. Cambridge: Cambridge University Press, 1984, p.25

^{iv} Cooter, *Cultural Meaning*, p.2

^v Poskett, *Materials of the Mind.*, p.150

^{vi} *Ibid.*, p.252

^{vii} Basalla, George. “The Spread of Western Science.” *Science*, 156, no. 3775 (1967), pp.611-622.

^{viii} Raj, Kapil. “Thinking Without the Scientific Revolution: Global Interactions and the Construction of Knowledge.” *Journal of Early Modern History*, 21 (2017): 1-14; Anderson, Warwick. “Remembering the Spread of Western Science.” *Historical Records of Australian Science* (2018); <https://doi.org/10.1071/HR17027>

^{ix} Sivasundaram, Sujit. “Sciences and the Global: On Methods, Questions, and Theory.” *Isis* 101, no. 1 (2010): 146-158, p. 146

^x Basalla, George. “The Spread of Western Science Revisited”, *Mundialización de la ciencia y la cultura nacional: actas del Congreso Internacional Ciencia, Descubrimiento y Mundo Colonial*, ed. Antonio Lafuente, et al. Madrid: Doce Calles (1993) : 599-604, p.603.

^{xi} *Ibid.*, p.602.

^{xii} Bray, Francesca. “Technological Transitions.” In J. H. Bentley, S. Subrahmanyam, M. Wiesner-Hanks (eds.), *The Cambridge World History*, Volume VI, (2015): 76-106.

^{xiii} Poskett, *Materials of the Mind*, p.151

^{xiv} *Ibid.*, p.145.

^{xv} *Ibid.*, p.77

^{xvi} *Ibid.*, p.49

^{xvii} Weller, Robert. *Discovering Nature: Globalization and Environmental Culture in China and Taiwan*. Cambridge: Cambridge University Press, 2006, p.21.

^{xviii} *Ibid.*, p.20

^{xix} Secord, “Knowledge in Transit.” p.662

^{xx} Poskett, *Materials of the Mind*. p.117

^{xxi} *Ibid.*, p.199; 235

^{xxii} *Ibid.*, p.236

^{xxiii} Anderson, “Remembering the Spread of Western Science.” 2018, p.E.

^{xxiv} Poskett, *Materials of the Mind*. p.164

^{xxv} Moyn, Samuel. “The nonglobalization of Ideas.” In *Global Intellectual History*, ed. A. Sartori and S. Moyn, New York: Columbia University Press (2013): 186-203, p.195.

^{xxvi} Poskett, *Materials of the Mind*. pp.164-165

^{xxvii} *Ibid.*, p. 45;285.

^{xxviii} *Ibid.*, p.186.

^{xxix} *Ibid.*, p.243

^{xxx} Berg, Maxine. “Global history: approaches and new directions.” in Berg (ed), *Writing the History of the Global* (Oxford, 2013): pp.1-19, p.5