The Museum of Big Ideas

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Abstract
Although museums of all kinds continue to proliferate, they have lost the capacity to generate big ideas that characterize epistemic shifts, such as evolution, the labour theory of value, or relativity. They have become mere echo chambers for ideas proposed elsewhere. How might museums regain their capacity to generate big ideas? The development of a Tangible Turn in scholarly thinking is leading to a reinvigoration of knowledge claims derived from material things. Museums are well placed to participate in such a reinvigoration, and in some instances – notably in the natural sciences – already are. Yet to do so they must overcome the taxonomic and systematic divisions that in the nineteenth century stimulated but now inhibit creative thinking. How can disciplinary ossification associated with collection definition be overcome? Two possible models are artists' interventions and arrangement according to philosophical principles, yet neither is sufficient. Curatorial scholars should acknowledge the physical and cultural instability of tangible things, and work with these properties to combine things in revelatory ways, eschewing stable categories. This can be accomplished most effectively in museums associated with universities through collaboration among the scholarly staffs of university collections and with university faculty.

1.

In *Beyond Good and Evil* (1886), Friedrich Nietzsche made any number of startling, often seemingly paradoxical claims. One, in particular, while not directly referring to museums, nonetheless concerns them: 'The more abstract the truth you want to teach the more you must seduce the senses to it.'[1]

Museums are eighteenth and nineteenth-century Western inventions for teaching abstract truths. Those abstract truths concern the ordering of what we might call this world; that is, the world that people might know and come to know by means of sensual apprehension. Those abstract truths concern discrimination – telling one thing from another – identification, and ordering. This is so whether the things concerned are dinosaur fossils, Old Master paintings, or Oceanic deities. The institutions that establish such abstract truths

[1] Friedrich Nietzsche, *Beyond Good and Evil: Prelude to a Philosophy of the Future*, translated by Helen Zimmern (Mineola, NY: Dover, 1997), 50.

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through examination, comparison, and taxonomy – museums – impart them most obviously by means of the sensual seduction of exhibitions, whether long or short term. Exhibiting may be only one aspect of what museums do, but this is the means by which museums conform to Nietzsche's apothegm.

Yet the question arises: Are museums still capable of establishing the fundamental abstract truths they impart? Have they not become mere echo chambers for ideas proposed elsewhere? However much they appear to thrive, are they not old institutions from which the life has long since departed? By life, I mean scholarly life: the life that leads to the establishment of abstract truths. Are they not 'old institutions' in Henry David Thoreau's terms? In his journal entry for August 19, 1851, he noted:

> The way in which men cling to old institutions after the life has departed out of them, & out of themselves, reminds me of those monkies which cling by their tails – aye, whose tails contract about the limbs – even the dead limbs of the forest and they hang suspended beyond the hunters reach long after they are dead[.] It is of no use to argue with such men[.] They have not an apprehensive intellect but merely as it were a prehensile tail.[2]

Are museums run by people – trustees, directors, curators, educators – with no more than prehensile tails? Where are the apprehensive intellects?

Throughout the world more and more museums are being built. Increasing numbers of people, we are told, visit museums of all kinds every year. Museums represent and embody a wide range of interests, from the national pride of overbearing countries, to the self-image of social groups whose very survival is uncertain; from rarefied scholarly investigators to enthusiastic amateurs; from metropolitan elites to local communities; from the immensely over-educated to the chronically under-resourced. Yet in spite of their apparent success, museums are beset with problems. Critique from academic commentators who have long accused them of being little more than instruments of social regulation that enforce the ideological norms of those in power is the least of their worries.

In a 2011 article in the *New York Times*, 'Opportunity on Madison', the art critic Holland Cotter summarizes the problem as follows: 'The upside of the museum boom of the last 40 years is

[2] Henry D. Thoreau, *The Writings of Henry David Thoreau: Journal, Volume 3: 1848–1851*, edited by Robert Sattelmeyer, Mark R. Patterson, and William Rossi (Princeton: Princeton University Press, 1990), 376.

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that everybody goes to museums. The downside is nobody's really there'.[3] (Of course, 'everybody' is not everybody, just every *New York Times* reader, or some such elite social demographic.) And 'nobody's really there' not simply because of the attention deficiency Cotter attributes to perpetually accessible instant data streaming to which many museums contribute their share, but because spectacle has undermined the opportunity, perhaps even the capacity, for thought.[4] The people who are not really there – in the sense of being mentally absent – are not so much museum visitors as museum trustees, directors, and all too many of those who report to them. What has gone wrong? And, as a big ideas person asked in relation to another puzzle in 1902: What is to be done?[5]

Museums have always provided entertainment to their visitors, as the great museum scholar and anthropologist Franz Boas acknowledged in a seminal article in 1907.[6] There is nothing in the least wrong with this. Ever since museums began incorporating public galleries they have tried to delight and instruct simultaneously, in accordance with Horace's dictum.[7] But in an age when art museums show motorcycles and fashion photographs, and natural history museums promote life-size electronically animated dinosaur models, has entertainment assumed the upper hand? These are not the examples that worry me particularly, though I believe we should see things in museums in ways that excite the critical faculties; that is, in ways in which they are not available to us elsewhere in the world. This should be so, whether the things concerned be motorcycles, fashion photographs, life-size animated dinosaur models, pterodactyl fossils, Mayan stelae, prototype computers, or Old Master paintings. In order to do this well, museums must be sites

[3] Holland Cotter, 'Opportunity on Madison', *New York Times, Arts and Leisure* 31/07/2011, 1, 20.

[4] There is much to be said for a return to Guy Debord's splenetic claims: *The Society of the Spectacle*, translated by Donald Nicholson-Smith (New York: Zone Books, and Cambridge, Mass.: MIT Press, 1994).

[5] Vladimir Ilyich Lenin, *What Is to be Done?* Translated by S.V. and Patricia Utechin, edited by S.V. Utechin (Oxford: Clarendon Press, 1963).

[6] Franz Boas, 'Some Principles of Museum Administration', *Science*, N. S. 25/650 (1907), 921–933.

[7] Horace (Quintus Horatius Flaccus), *Ars Poetica*, lines 343–344: 'omne tulit punctum qui miscuit utile dulci,/ lectorem delectando pariterque monendo'. ('He wins every hand who mixes profit with pleasure by delighting and instructing the reader simultaneously.') Horace is writing of texts, not museums. See Horace, *Satires and Epistles*, translated by John Davie (New York: Oxford University Press, 2011), 115.

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of scholarship. They cannot solely rely on outsourcing thought to other kinds of institutions. They have to produce ideas themselves. Their trustees have to provide the policies and the means for them to do so. When given the opportunity and resources, museums of all kinds have been, and continue to be, rather good at producing ideas themselves, albeit during the last hundred or so years on a relatively modest intellectual scale.

Much museum scholarship takes the form of display, whether long-term or temporary exhibitions, and accompanying catalogues. Museum scholars – curators, scientists, conservators – make considerable incremental contributions to knowledge in a wide range of fields, from anthropology to zoology – even animated movies.[8] Only on the basis of this work can they and their colleagues – museum educators, for instance – reach out effectively to an ever-wider variety of public constituencies that the ideals of the institutions no less than the expectations of funding bodies mandate they should serve. To this end, museums seek to delight and instruct. Yet while these two aims should be carried out in mutual balance, together they should balance another aim: to discharge the responsibility of museums to contribute to human knowledge at the fundamental and not solely at the incremental and popular levels.

Museums should be generators of big ideas. By big ideas I mean ideas generated by fundamental questioning leading to the proposition of bold hypotheses, their demonstration, and the consequent occurrence of epistemic shifts. The Big Bang is a big idea; that a drawing once thought to be by Rembrandt is by one of his students is not. Ideas, though, exist on a spectrum rather than in two distinct categories – big and small – and demonstrable small ideas can contribute incrementally to the development of big ideas. Museums used to be generators of big ideas, but are so no longer. Many nineteenth-century giants of scholarship in a wide variety of fields, such as Jean-Baptiste Lamarck (natural history), Michel Eugène Chevreul (chemistry), Johann David Passavant (art history), Henry De la Beche (geology), and Adolf Bastian (anthropology), were museum scholars. Yet for the last hundred or so years museum

[8] *An Adventure with Wallace & Gromit*, at the Museum of Fine Arts, Boston, March–August, 1998, was a fascinatingly instructive investigation of the process of creating the stop-motion clay animation movies featuring the duo: *A Grand Day Out* (1989), *The Wrong Trousers* (1993), and *A Close Shave* (1995). Since the exhibition, a further two movies have been released by Aardman Animations, the full-length feature, *The Curse of the Were-Rabbit* (2005), and *A Matter of Loaf and Death* (2008).

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scholarship has largely been confined to incremental information gathering, rather than to the fundamental definition of fields of inquiry and the key concepts they use. That initiative has largely passed to universities and other institutions of learning. Rather than focusing on why this should be – other historians, such as Steven Conn, have offered plausible explanations[9] – I want to examine how a reinvigoration of the possibilities of making knowledge claims from tangible things might come about, and what the role of museums in this epistemic shift might be.

Following the Linguistic Turn and the Cultural Turn in the human and social sciences, we are now experiencing a Tangible Turn. Much of what constituted the Linguistic Turn, particularly from the 1960s onward, now seems unwarrantably reductionist, although puzzles introduced by philosophers such as Ludwig Wittgenstein (concerning language games, for instance) remain as pertinent as ever.[10] The concentration on meaning in the Cultural Turn has not survived close philosophical scrutiny; nor have the claims of social constructionism that significance of all kinds is a matter of acquiescence in social convention. Philosophers such as Ian Hacking and Simon Blackburn have upended contructionism and relativism.[11] However, much of interest and use can be gleaned from the publications of the many fine scholars who worked within both these sets of broad assumptions. For instance, among the thinkers working within the Linguistic Turn whose work I have personally found to be stimulating and useful are Giorgio Agamben, and Daniel Heller-Roazen.[12] In particular, the widening of the range of

[9] Steven Conn, *Museums and American Intellectual Life, 1876–1926* (Chicago: University of Chicago Press, 1998).

[10] Ludwig Wittgenstein, *Philosophical Investigations*, Revised 4th edition, edited by P. M. S. Hacker and Joachim Schulte, translated by G. E. M. Anscombe, P. M. S. Hacker, and Joachim Schulte (Malden: Wiley-Blackwell, 2009), Part I.

[11] Ian Hacking, *The Social Construction of What?* (Cambridge, MA and London: Harvard University Press, 1999); Simon Blackburn, *Truth: A Guide* (Oxford: Oxford University Press, 2005).

[12] Giorgio Agamben's ambitious ongoing study of the human condition in states of exception includes the extraordinary examination of human debasement: *Remnants of Auschwitz: The Witness and the Archive*, translated by Daniel Heller-Roazen (Cambridge, MA and London: MIT Press, 1999). Agamben's translator, Daniel Heller-Roazen, has written an extraordinary account of language loss with enormous historical implications: *Echolalias: On the Forgetting of Language* (Cambridge, MA and London: MIT Press, 2005).

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material to which scholars in the critical disciplines give serious attention in consequence of the Cultural Turn provides a benchmark from which, surely, there can be no turning away, even though this development is really no more than a catching up with practices long taken for granted in the anthropological, archaeological, historical, and the various scientific disciplines.

What, then, is the Tangible Turn? In sum, the Tangible Turn is a reinvigoration of the possibility of making knowledge claims from tangible things. What are tangible things? Briefly put, they are things in this world that have a material aspect usually apprehensible through the senses. Some things may be too small or otherwise inaccessible to be clearly sensually apprehensible – at least unmediated – yet nonetheless have a material aspect in this world: sub-atomic particles and black holes, for example. I use the phrase 'in this world' to distinguish the world of shared human experience from all other possible worlds, the domain of thought experiments, such as Hilary Putnam's famous Twin Earth.[13] I also want to make it clear that tangible things may have aspects, whether inherent or ascribed, that are not material. Tangible things, like sub-atomic particles and black holes, tend to have complex existences, each being apprehensible in a variety of aspects, and all relating in some sense to one another in varying degrees of separation. Although often profoundly affected by human language use, they are not constituted by language use alone.

I am especially concerned with those among tangible things that have been and yet might be assembled in museums. Obviously, they form only a limited sub-set of all tangible things. Some tangible things are on a scale that precludes their inclusion in a museum. An example is the Galápagos Islands. Yet other tangible things, in their entirety, are beyond human reach: the Moon, for instance. Yet human institutionalisation can encompass such sites. Ninety-seven percent of the Galápagos is an Ecuadorian national park, and a UNESCO World Heritage Site. In the case of the Moon, humans have at least attempted to regulate the uses to which it can be put, formulating through the United Nations the *Agreement Governing the Activities of States on the Moon and Other Celestial Bodies* in 1979. However, the *Agreement* has thus far been ratified by only fifteen nations, none of which engages in self-launched human space flight. The *Agreement*, even if ratified by all nations, would not turn the Moon into the international equivalent of a national park;

[13] Hilary Putnam, 'Brains in a vat', in *Reason, Truth and History* (Cambridge: Cambridge University Press, 1981), 1–21, especially 18–19.

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and a national park – such as the Galápagos – is not a museum, though it can share various features with museums. The boundary between preservation sites, such as national parks, and collecting institutions, such as museums, is admittedly and interestingly fuzzy.

The point here is that far from everything that exists in the world, as defined (and beyond it, but subject to human sensual apprehension), is capable of inclusion within museums of any kind. Much necessarily remains beyond their boundaries. Second, insofar as museums collect things that have survived from the past – whether crystals of the mineral zircon (zirconium silicate) that are about 4.4 billion years old, to artworks by artists only weeks or even days old – many, many things, and kinds of things, have not survived. Humans successfully preserve some tangible things deliberately, for a wide variety of reasons including religious observance, sentiment, and the preservation of group identity. Other things once held by humans are concealed deliberately – such as hoards – or lost inadvertently, themselves to be recovered also deliberately, through archaeological excavation, or accidentally, for example in the course of building work. Many more tangible things disappear without human agency, and can reappear metamorphosed, whether their original form is recognizable – as, for instance, fossils – or not, as in the case of crude oil. Most organic things decay, and their original form is lost, or significantly diminished. For instance, most undisturbed buried or unburied human bodies are soon reduced to skeletal remains. Only occasionally do circumstances, whether contrived or not, allow the preservation of tissue to any considerable extent. In some human societies – most famously, dynastic Egypt – people practiced deliberate mummification. Other bodies have been preserved inadvertently in conditions of extreme aridity (as in the high Andes) or tannin rich bogs (as in Denmark). Such bodies can be found respectively in the Museo Arqueológico Dr. Eduardo Casanova, Tilcara, Argentina, and in the Silkeborg Museum, Denmark (the celebrated 'Tollund Man').[14] Much, of course, does not survive. Yet in some circumstances, written descriptions do. Consulting these can reveal the extent of material loss, at least in some places and at some times. For instance, the historian Daniel

[14] The mummified body of a woman was displayed in the Museo Arqueológico Dr. Eduardo Casanova, Tilcara when I visited in 1998, but reportedly is no longer. For 'Tollund Man' and other bodies preserved in Danish bogs, see, in the first instance, P.V. Glob, *The Bog People: Iron Age Man Preserved*, translated by Rupert Bruce-Mitford (London: Faber, 1969).

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Smail's work on the archival traces of debt recovery in medieval Marseilles and Lucca – analyses of documents recording the seizure of goods and sometimes people in lieu of debts – reveals not only descriptions of things analogues of which survive in museum collections, but also of things – many of them – that do not, among them vulnerable clothing.[15] The consequence is that we would be deeply mistaken were we to assume that all those many, many things that exist in museum collections worldwide – from ammonites to zircon crystals; human artefacts to the humans who made such things – represent the totality of the tangible 'thingness' of the world. We must work with what little – a great deal – we have, aware of the contingency of survival no less than of the application of taxonomic principles by museum scholars and others.

Although only a fraction of what might be of use, the tangible things in museums of all kinds constitute a lot of very varied stuff, the study of which affects a wide range of scholarly disciplines alphabetically from anthropology to zoology. For instance, in anthropology the study of tangible things gives opportunities to reshape relationships between anthropologists and Indigenous communities through their respective interests in such things. One recent example is the loan in 2010 from the Pitt Rivers Museum at Oxford University to the Glenbow Museum, Calgary, and the Galt Museum, Lethbridge, Alberta of five Niitsítapi (Blackfoot) shirts that had been acquired by the governor of the Hudson's Bay Company in 1841. Organized by Laura Peers of the Pitt Rivers, and Alison Brown of the University of Aberdeen, this project was cast as an ancestral visit, and included handling sessions for Niitsítapi people.[16] A revised version, incorporating material derived from the 2010 project in Alberta, was presented at the Pitt Rivers Museum in 2013.[17]

[15] Daniel Lord Smail, *Goods and Debts in Medieval Mediterranean Europe*, forthcoming. Another example of the archival preservation of descriptions of clothing of kinds that themselves do not survive – the layers of clothing worn by the Parisian poor who lived in shared rooms whose drowned bodies were recovered from the River Seine – is the subject of Richard Cobb, *Death in Paris: Records of the Basse-Geôle de la Seine, October 1795–September 1801, Vendémiaire, Year IV–Fructidor, Year IX* (Oxford and New York: Oxford University Press, 1978).

[16] As stated on the website of the Glenbow Museum: http://www.glenbow.org/exhibitions/past/2010-2011/index.cfm. See also, Ivan Gaskell, 'Museums and philosophy – of art and many other things Part II', *Philosophy Compass* 7/ 2 (2012), 93.

[17] See http://www.prm.ox.ac.uk/blackfootexhibition.html.

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At the other end of the alphabet, zoology – part of natural history – the study of tangible things now includes the extraction of genetic evidence – DNA – from specimens, and its analysis. This has led to a taxonomy different from that of the Linnaean system, based not on observable morphological characteristics to establish the tree of life, but on genetic relationships that form clades derived from a common genetic ancestor. The PhyloCode (International Code of Phylogenetic Nomenclature) threatens to displace Linnaean categorization above the level of species.[18] The U.S. National Institutes of Health database of genetic sequences, GenBank, is available online, and is an annotated collection of all publicly available DNA sequences.[19] GenBank exchanges information with its Japanese and European equivalents daily as part of the International Nucleotide Sequence Database Collaboration. This work affects not only zoology, but the study of all living things. Close attention to life on the microbial scale in conjunction with phylogenetic analysis has led to a new conception of the tree of life, comprising not two domains, as previously, but three.[20] The consequence for natural history museums is that collections that had languished for want of attention are suddenly once again sources of genetic information otherwise unobtainable. Some museums have responded to this development, building and staffing laboratories in which the latest DNA extraction and analysis can be performed, such as the Sackler Institute for Comparative Genomics at New York's American Museum of Natural History, established in 2001, and the Darwin Centre at London's Natural History Museum, which opened in 2009.

Although associated with certain core disciplines as they emerged in the nineteenth century, museums are inherently interdisciplinary institutions. Biochemists, microbiologists, taxonomists, and computer scientists all have a place at major natural history museums. Major art museums employ not only art historians, but also conservation scientists who develop and apply techniques of physical analysis that may have been initially used in other fields, such as

[18] For a draft, see http://www.ohio.edu/phylocode/.

[19] See http://www.ncbi.nlm.nih.gov/genbank/.

[20] Introduced by Carl R. Woese and George E. Fox, 'Phylogenetic structure of the prokaryotic domain: The primary kingdoms', *Proceedings of the National Academy of Sciences* 74/11 (1977), 5088–5090. See also Carl R. Woese, Otto Kandler, and Mark L. Wheelis, 'Towards a natural system of organisms: proposal for the domains Archaea, Bacteria, and Eucarya', *Proceedings of the National Academy of Sciences* 87/12 (1990), 4576–9.

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medicine. X-radiography is associated principally with medicine, but paintings were radiographed within a year of the discovery of X-rays by Wilhelm Roentgen in 1895. Alan Burroughs of the Fogg Art Museum at Harvard University established X-radiography as a necessary component of the study of artworks. In 1926, he created X-radiographs of a body of Old Master paintings in various museums, and published his findings as *Art Criticism from a Laboratory* in 1938.[21] Now many other techniques permit the detailed analysis of artworks to uncover previously undetectable physical characteristics, such as the identification of pigments and media in paint. These include neutron activation autoradiography, Fourier transform spectroscopy, and infrared reflectography. Technical research focuses on newly accessible aspects of the things concerned, such as the underdrawings – preparatory drawings beneath the paint surface – of certain kinds of European paintings.[22]

Moving from art to natural history, we should bear in mind that collections of plant materials have long been made with purposes other than the systematic analysis of the botanical world in mind. The exploitation of plants for human benefit and profit has prompted botanists in museums to explore the economic potential of hybridization of food crops, and the control of naturally occurring exploitable plants for medical and other commercial purposes. The development of rubber is a primary example. The Royal Botanical Gardens, Kew, outside London, was responsible for propagating seeds from the latex producing tree, *Havea brasiliensis*, exported surreptitiously from Brazil in 1876 by Henry Wickham. In turn, seedlings from this leading botanical museum were used to found rubber plantations in tropical areas of the British Empire, notably southern India, Ceylon and Malaya, which destroyed the Brazilian rubber monopoly.[23]

[21] Francesca G. Bewer, *A Laboratory for Art: Harvard's Fogg Museum and the Emergence of Conservation in America, 1900–1950* (Cambridge, MA: Harvard Art Museums, and New Haven: Yale University Press, 2010), 95–104, 201.

[22] See, for instance, Molly Faries and Ron Spronk (eds), *Recent Developments in the Technical Examination of Early Netherlandish Painting: Methodology, Limitations, and Perspectives* (Cambridge, MA: Harvard Art Museums, and Turnhout: Brepols, 2003). For a recent online exposition of the technical examination of one such painting, the *Adoration of the Mystic Lamb* by Hubert and Jan van Eyck ("the Ghent Altarpiece"), see http://closertovaneyck.kikirpa.be/.

[23] Joe Jackson, *The Thief at the End of the World: Rubber, Power, and the Seeds of Empire* (New York: Viking, 2008).

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Wartime conditions prompted an acceleration of the hunt for industrially exploitable plant materials. In July 1917, the National Research Council in Washington, D.C. created the Botanical Raw Products Committee for just this purpose.[24]

Advances in chemical processes led to an ever-increasing adoption of synthetic alternatives to plant derivatives during the course of the twentieth century. For instance, the DuPont Experimental Station first produced nylon, a synthetic polymer, in 1935. Its first mass commercial application was in toothbrushes and women's stockings, replacing hog bristles and silk respectively.[25] In the early twenty-first century, when synthetic materials dominate, botanical specimens in herbaria and economic botany collections can seem largely moribund. Yet scientists are exploring botanical collections in search of potential new cultivars from which biofuels, such as ethanol, algal oil, or even myco-diesel (obtained from a recently discovered fungus), might be derived.[26] In this new context, long-maintained and carefully curated collections of living algae, such as the Culture Collection of Algae (*Sammlung von Algenkulturen*) at the Georg-August Universität, Göttingen, Germany, assume a new importance. About 1,600 species of microalgae in about 2,400 strains in this collection are available for study.[27] The number of algal species remains unknown, but in May 2005 the Algal Collection of the U.S. National Herbarium in the National Museum of Natural

[24] Edward M. East, 'The scope and work of the Botanical Raw Products Committee', *Proceedings of the National Academy of Sciences of the United States of America* 3/12 (1917), 731–733.

[25] Pap A. Ndiaye, *Nylon and Bombs: DuPont and the March of Modern America*, translated by Elborg Foster (Baltimore: Johns Hopkins University Press, 2007).

[26] Mark S. Wigmosta, André M. Coleman, Richard J. Skaggs, Michael H. Huesemann, and Leonard J. Lane, 'National Microalgae Biofuel Production Potential and Resource Demand', *Water Resource Research* 47, 3, 2011. http://onlinelibrary.wiley.com/doi/10.1029/2010WR009966/epdf. Summarized by Frances White, 'Study: Algae Could Replace 17% of U.S. Oil Imports', Pacific Northwest National Laboratory news release, 13/04/2011. http://www.pnl.gov/news/release.aspx?id=859; Gary A. Strobel, Berk Knighton, Katreena Kluck, Yuhao Ren, Tom Livinghouse, Meghan Griffin, Daniel Spakowicz, and Joe Sears, 'The Production of Myco-Diesel Hydrocarbons and their Derivatives by the Endophytic Fungus *Gliocladium roseum* (NRRL 50072)', *Microbiology* 154 (2008), 3319–28.

[27] See http://www.uni-goettingen.de/en/184982.html.

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History, Washington, D.C. contained 231,398 dried specimens on herbarium sheets.[28]

Museum collections remain vital resources for continuing research in a wide variety of fields. However, the institutions that have created, continue to enhance, and conduct primary taxonomic and other kinds of study on these collections are under increasing pressure not to pursue primary research and scholarship, but to inform and entertain ever-broadening constituencies of populations at large by means of exhibits and, increasingly, Web presentations. Scholarship should certainly be made available in readily comprehensible ways to a wide range of constituencies by means of exhibiting and publication, including on the Web. But that scholarship has to be produced in the first place if it is to be made available, and that production cannot be delegated to other kinds of institutions. Museums themselves have to be sites of scholarship.

2.

How did museums get into their current distracted and sorry state? What needs to happen so that museums might once more participate in the generation and pursuit of big ideas? Can we regenerate museums as sites of scholarship contributing to big ideas – those that change fundamental assumptions and set new research agendas – while yet retaining their capacity to produce incremental scholarship, and enhancing their public functions? While I value attempts to grapple with big ideas, I have no big answers, only number of examples and modest suggestions.

Steven Conn has argued convincingly that an epistemic shift in Western thinking occurred towards the end of the nineteenth century in which the balance of scientific inquiry shifted from observation, collection, taxonomic investigation, and comparison, to the testing of hypotheses through experimentation. This is not to say that experimentation was not practiced in the seventeenth through nineteenth centuries, but only towards the end of the nineteenth century did big ideas come to be increasingly associated with, and eventually confined to, experimentation. Universities, government agencies, and experimental research facilities seized the initiative in the generation of big ideas. Museums simply could not compete, tied, as they were, to observation rather than experiment,

[28] National Museum of Natural History, Algae Research: http://botany.si.edu/projects/algae/collection.htm.

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to tangible things rather than to abstract concepts and immaterial factors. Conn convincingly argues that museums as a whole symbolically lost their authority when the anthropologist Franz Boas left the American Museum of Natural History for Columbia University in 1905.[29] Art museums managed to hang on to theirs until – again symbolically – sixty years later, when the art historian Michael Baxandall left the Victoria & Albert Museum, where he was a curator of sculpture, for the Warburg Institute of London University.[30] Numbers of museums have tried to hold the line in terms of fostering scholarship. People in these museums still do intellectually interesting projects, but they are all incremental rather than fundamental. Now that tangible things are back, we need ambition, and – above all – agility in museums. They might at least make an effort to position themselves to take advantage of the current epistemic shift to tangible things.

In the first place, we should acknowledge that Western scholars now think differently from how they did when formal academic disciplines emerged, often in conjunction with museums, in the nineteenth and early twentieth centuries. It is a commonplace that much creative thinking now crosses disciplinary boundaries, and combinations of terms previously seemingly incompatible name newly emergent interdisciplines, such as biotechnology. Museum collections were largely formed to permit work in disciplines that, since their formation, have in many if not all respects, moved on. Big ideas are more likely to emerge at the intersections of disciplines than safely within nineteenth or twentieth-century disciplinary formations. How can museums hope to stimulate and accommodate such thinking while they remain strictly compartmentalized as art museums, natural history museums, science and technology museums, anthropology museums, or history museums, as they

[29] Conn, *Museums and American Intellectual Life*, op. cit., 102.

[30] The Warburg Institute fostered Baxandall's studies that resulted in his books dealing with the intersection of physical artworks and abstract ideas: *Giotto and the Orators: Humanist Observers of Painting in Italy and the Discovery of Pictorial Composition, 1350–1450* (Oxford: Clarendon Press, 1971), *Painting and Experience in Fifteenth-Century Italy: A Primer in the Social History of Pictorial Style* (Oxford: Clarendon Press, 1972), *The Limewood Sculptors of Renaissance Germany* (New Haven: Yale University Press, 1980), and *Patterns of Intention: On the Historical Explanation of Pictures* (New Haven: Yale University Press, 1985). The book on German limewood sculpture, in particular, drew directly on his curatorial experience at the Victoria & Albert Museum.

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were one hundred and more years ago?[31] The barriers among collections of these kinds are often very high, and in practical terms difficult to overcome. Adventurous thinking that might draw on collections of more than one kind – botany, archaeology, and fine art, for instance – goes against the grain of collection organisation.

Even in large museums with relatively varied collections, the barriers among divisions or departments responsible for various kinds of things can be as formidable as those among separate institutions. For instance, the Metropolitan Museum of Art, New York, has nineteen curatorial departments, each responsible for a defined body of material, such as Arms and Armor, European Paintings, or Ancient Near Eastern Art. Each pursues its own projects. Such collection categorisation may encourage close attention to items individually or in groups within well-established taxonomic boundaries, but discourages thematic research across the collections as a whole. Even some of the most obvious and traditional conjunctions are inhibited. For instance, the curator of silver in American Decorative Arts, and the curator of silver in European Sculpture and Decorative Arts are both leading scholars in their field of study, but although they have excellent collegial relations, their research and exhibition projects are entirely separate from one another. Such are the blockages and barriers within a single – admittedly huge – museum devoted to just one area of human endeavour, art. The barrier between this museum and its neighbour across Central Park, the American Museum of Natural History (AMNH), with its equally extensive collections of natural history and anthropology, appears to be even greater. Their scholars do not draw on one another's collections. And the barriers within the AMNH among its various curatorial divisions – Anthropology, Invertebrate Zoology, Paleontology, Physical Sciences, and Vertebrate Zoology – are equally difficult to surmount. There are signs, though, that things may be changing in both institutions. Interdepartmental projects are increasingly actively encouraged at the Metropolitan Museum from the highest level. The 2013–14 exhibition *Interwoven Globe: The Worldwide Textile Trade, 1500–1800*, drew on the museum's collections as a whole. At the AMNH, planning is in train to create a new Asian Hall that will bring together in a single large exhibit materials currently divided between the Hall of Asian Mammals and the Hall of Asian Peoples.

[31] These are the categories (together with commercial museums) defined and described by George Brown Goode, 'The Principals of Museum Administration', in *Museum Association Proceedings,* Sixth Annual Meeting (London: Dulua and Co, 1895), §4.

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A curator of mammalogy in the Division of Vertebrate Zoology, and the chair of the Division of Anthropology, who is the curator of Asian Ethnology, are jointly leading the project.

These are encouraging developments, but such institutions are nonetheless working within their nineteenth-century collection paradigms. How might conditions best be created to encourage innovative thinking with collected things across the board? How are collecting institutions to overcome disciplinary ossification with regard to their collections? Two tried methods are worth mentioning. The first is the artist's intervention. The most frequently cited example is the 1992–93 exhibition *Mining the Museum: An Installation by Fred Wilson*, organized by Lisa Corrin at the Maryland Historical Society in conjunction with The Contemporary in Baltimore. The artist Fred Wilson, using items from storage, intervened in the collection displays to make new didactic points. Famously, Wilson labelled a display of high-end silver 'Metalwork', and introduced a pair of nineteenth-century slave shackles. This project, among others, opened the door to extraordinary and revelatory displays in a variety of museums. After a while, though, it became apparent that interventions of this kind depend on conceiving of them as art, and hence they occur under a special license implicitly denied to any other kind of practitioner who might want to work similarly. The label 'art' for such work allows it to be safely segregated from ordinary curatorial exhibition practice as something more rarefied – requiring an artist to do it – and therefore without consequence for museum practice generally. Thinking expressed through art can be profound, but it remains circumscribed and isolated. Only when such strategies are normalized within curatorial practice – that is, without appeal to special artistic license – can museum thinking stand a chance of being liberated from the categorical assumptions that such strategies interrogate. As art, they depend on the perpetuation of conservative assumptions regarding the uses of collections within museums. Those assumptions must change from within, and without the necessity of an appeal to the license of art.

A second example of how collecting institutions might overcome disciplinary ossification with regard to their collections is a display contrived not on principles conforming to an empirical discipline – whether zoology, geology, art history, or whatever might be most obviously pertinent to the material concerned – rather a display based on philosophical principles. The one collecting institution that has attempted this is the Barnes Foundation, long in Merion in suburban Philadelphia, but with a new exhibition facility in downtown Philadelphia that opened in 2012. Albert C. Barnes conceived

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of his collections as an educational tool along lines directly inspired by John Dewey. Founded in 1922, the foundation had Dewey as its director of education, although the day-to-day work was performed successively by two of his former students. Barnes displayed his collection along Deweyan lines, regardless of art historical considerations. Dewey dedicated his major aesthetic statement, *Art as Experience* to Barnes.[32] This means that the dense hang intermingles major European paintings by artists such as Cézanne, Matisse, Renoir, Seurat, and Modigliani with New Mexican devotional paintings of saints (*santos*), sub-Saharan African carvings, Pennsylvania Dutch painted chests, and European ironwork such as keys and door hinges. This arrangement has obviously long frustrated conventional art historians who have longed to 'liberate' the great impressionist and post-impressionist paintings from their surrounding 'distractions'. Yet such are the terms of Barnes's will, that the foundation's new building in Philadelphia replicates the galleries of the Lower Merion building precisely, and repeats its philosophically inspired hang organized in accordance with formal principles of line, space, light, and colour using things from many cultures and periods to demonstrate the supposed universalism of human expression. It is certainly paradoxical that one has to appeal to an ossified arrangement to point out one means of overcoming ossification in other collections.

Artists' interventions in displays, and arrangement of exhibits by philosophical principle prompt me to make two linked claims: First: No given thing reveals all of itself in any one set of circumstances; second: What any given thing reveals of itself depends directly on its circumstances. I shall elaborate with further propositions.

Tangible things are unstable. In the first place, they change physically over time, some radically, others imperceptibly. The once fresh and lifelike taxidermic mount splits and molts. The once fresh oil painting darkens and cracks. Second, they change in terms of use, often, though not exclusively, as they change hands over time. One person's god is another's idol, and yet another's ethnographic specimen, and another's artwork.[33] We can see this clearly in the history of the Hawaiian Kuka'ilimoku or Kū in the Peabody Essex Museum,

[32] John Dewey, *Art as Experience* (New York: Penguin, 2005), originally published in 1934. He had earlier collaborated with Barnes to produce John Dewey, Albert C. Barnes, et al., *Art and Education* (Merion: Barnes Foundation Press, 1929).

[33] I make this point in another context in Ivan Gaskell, 'Ethical judgments in museums', in Garry L. Hagberg (ed), *Art and Ethical Criticism* (Oxford and Malden, Mass.: Wiley-Blackwell, 2008), 229–242.

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Salem, Massachusetts. It began as temple deity, became an ethnographic curiosity as an 'idol', then an artwork, and is now once more a deity.[34]

Instability and multivalency go hand in hand. Change in a tangible thing is not a simple succession of discrete identities: identities linger, overlap, and sometimes contradict each other. Circumstances permit particular identities to emerge, or aspects of an identity to emerge. Thus the placement of devotional *santos* paintings in a church in New Mexico – the pilgrimage church of Chimayó, for instance – emphasizes quite different aspects of such images from the placement of similar *santos* in the Barnes Foundation. The *santos* at Chimayó are unreservedly objects of religious devotion; those in the Barnes Foundation are clearly objects of aesthetic attention. Of course, an observer can read either 'against the grain'. Indeed, one might wonder whether a dispassionate and methodical observer might be able to apprehend any aspect of a given item in any circumstances.[35] Be that as it may, the selective revelation of particular aspects of tangible things is achievable through manipulation. This is what museum curators do in exhibits: they bring out particular aspects of things deliberately through positioning, mounting, juxtaposition, lighting, and ambient colouring of walls and casework. Yet gallery display far from exhausts the range of circumstances in museums, even if those other circumstances are not within ordinary public experience. Few visitors see museum storage areas, which are often extensive. For example, seeing Native American baskets in storage is very different indeed from seeing Native American baskets in an exhibit. Few visitors ever see inside a museum conservation laboratory, yet seeing Native American baskets in such a laboratory is very different again.

Museum scholars are therefore not helpless in the face of the physical instability, cultural mutability, and the manipulability of tangible things. They can learn to work with them, however slippery they may be. However, we should recognize that one of the major consequences of these characteristics of things affects how museums collect them. The urge to place them in stable categories – whether on a large scale (art, anthropology, natural history) or finely differentiated (Linnaean species, distinct forms of prints) – goes, in an important sense, against their nature. I leave to others to argue whether categories of things accord with states of affairs in what we might call the

[34] For a more detailed discussion see Ivan Gaskell, 'The life of things', in Michelle Henning (ed), *Museum Media* (Oxford: John Wiley, 2015).

[35] Any thorough exploration of this issue would have to take into account Ludwig Wittgenstein's remarks on aspects, especially in the *Philosophical Investigations*, op. cit., Part II.

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world, or whether they are human constructions alone, or some admixture of the two, or neither. All I will claim is that if Western scholars are to reinvigorate museums as places for the generation of big ideas, they will have to come to terms with, and challenge, the present inflexibility and institutional inertia of habitual modes of the categorisation of museum collections of all kinds.

I have already pointed out that artists' interventions and purely philosophical arrangements can provide examples of taxonomic approaches other than the familiar, but both are limited: the former by its confinement to artists' license, the latter by a demonstrated tendency to ossify. How, then, can these paralyzing inhibitions be overcome? One answer may lie in collaboration: collaboration between museum scholarship – such as it is – and university scholarship – also, though perhaps less pessimistically, such as it is. They actually need one another. Museums and universities can pool resources to overcome disciplinary and collection category sclerosis. And this might most readily happen in universities that themselves have multiple and varied museum collections.

The reinvigoration of the University of Glasgow's Hunterian Museum and Art Gallery is under way through coordination that seeks to transcend the disciplinary divisions into which the marvellously varied collections were divided in the nineteenth century. These include Roman artefacts, eighteenth and nineteenth-century scientific instruments, items collected on James Cook's voyages to the Pacific, William Hunter's anatomical teaching collection and pathological preparations, major numismatic holdings, and European art. The museum's website has the ambition of making all the collections searchable so that scholars might find information online about as many of the varied holdings as possible, whether art, geology, scientific instruments, or other categories into which they have long been sorted.[36] This ought actively to encourage cross-disciplinary research without physically interfering with the governance and care of the collections.

Another example, not so far along in its development but researching new means and uses on the initiative of its president, concerns the many and varied collections of the Georg-August Universität, Göttingen. Soon after its foundation in the mid-eighteenth century, the university had a unified museum that addressed various fields of scholarship. This was divided into the familiar categories in the nineteenth century, and new collections associated with emergent academic departments formed in addition. Now some kind of reunification – or at least coordination – is being researched, with a full-time senior position dedicated

[36] See http://www.gla.ac.uk/hunterian/.

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to the task, plus the support of the Lichtenberg Kolleg, the university's advanced study institute. At present, the collections all operate in isolation from one another – some with a great deal of energy, others somewhat quietly. The single most prominent collection is the Ethnological Collection.[37] Its two major components are the Cook-Forster collection, comprising the largest single group of human-made things to have been brought back from the Pacific by members of any of James Cook's three expeditions. Johann Reinhold Forster and his son Georg were the naturalists on Cook's second expedition between 1772 and 1775. The university acquired the collection from the elder Forster's widow following his death in 1798. It is one of the most significant collections of Oceanic material in existence. The second highly important ethnographic collection is that formed by Baron Georg Thomas von Asch (1729–1807), who was in Russian service in Siberia and Russian America. Whether all the collections will be in whole or in part integrated into a single museum, or whether some other arrangement will be made is as yet undecided. The opportunity exists for innovative collaboration, and for scholars in both museums and the faculty to cross collection and disciplinary boundaries in exploratory ways.

If philosophy can offer us some ways in which to think about the development and future of museums, their collections, and the scholarship they have contributed and might yet contribute, history offers us another. My abiding concern is with how tangible things can be used as historical sources. One of the great attractions of history as a discipline when considering the potential of tangible things is that it is an extensive umbrella. History can cover everything that has occurred in the past; that is, everything we might know about, at least insofar as it concerns human actions. All things in museums relate to history even if only because human beings put them there. At the very least, the movements and uses of tangible things within museums are matters for historical consideration, regardless of what those things might be. And most of those things had existences – often very varied and complex existences – even before they entered museums. Tangible things offer portals to the past of unexceeded richness and variety. This realisation, along with the many other uses in a wide range of fields of inquiry to which scholars might put tangible things, has the potential to reinvigorate museum collections of all kinds.

In this context, I mention four examples from a large exhibition project at Harvard University in 2011 as part of which the historian Laurel Thatcher Ulrich and I introduced fifteen individual items

[37] See http://www.uni-goettingen.de/de/28899.html.

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from various Harvard collections into existing displays where they did not belong. We inserted the painter John Singer Sargent's palette from the Fogg Art Museum into the display of instruments for investigating colour vision in the Collection of Historical Scientific Instruments. We introduced a Louis Comfort Tiffany glass vase in the form of a stylized flowering stem, also from the Fogg Art Museum, into the famous Glass Flowers – the Ware Collection of Blaschka glass models of plants – in the Museum of Natural History. A bladder stone surgically removed from a patient in 1809 from the Warren Anatomical Museum found a new temporary home in the displays of the Mineralogical Museum. A die-cut tin Blue Bird sign, used in the 1915 Massachusetts women's suffrage campaign, from the Schlesinger Library on the History of Women in America, was installed in a case of actual blue birds, part of an exhibit about colour in nature in the Museum of Natural History. These and the other eleven interventions that Ulrich and I contrived do not express big ideas, but they represent an effort to appropriate curatorially the license hitherto confined to artists' interventions, such as those by Fred Wilson. They were part of a reasoned challenge – I might even claim, a philosophical challenge – to the norms of rigid categorisation in museums. They conform to Nietzsche's dictum with which we began: 'The more abstract the truth you want to teach the more you must seduce the senses to it'. They also conform to another uncompromising claim, found among the quotations from Protestant theological thinkers and poets inked on various patches that together constitute a complex pieced quilt made in the 1880s by an octogenarian Massachusetts widow for her nieces, and included in the 2011 Harvard exhibition. It reads: 'Great Objects make Great Minds'.[38] Just as this saying, from Edward Young's *Night Thoughts on Life, Death, and*

[38] Edward Young, *Night Thoughts on Life, Death and Immortality: Night the Ninth, The Consolation*, 1745:

'… how great, How glorious, *then* appears the *mind* of man,
When in it all the stars, and planets, roll!
And what it *seems*, it *is*. *Great* objects make
Great minds, enlarging as their views enlarge;
Those still more godlike, as *these* more divine.'

See Edward Young, *Night Thoughts*, edited by Stephen Cornford (New York: Cambridge University Press, 1989), 257. The quilt, by Sarah Henshaw Ward Putnam (1800–1894), is in the General Artemas Ward House Museum, Shrewsbury, Massachusetts, a house museum that is part of Harvard University.

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Immortality, has been a long-term inspiration to me as I seek to work with tangible things, so I hope the interventions contrived by Laurel Ulrich and me, and the book that has emerged from these,[39] will form a modest contribution to a reinvigoration of museum scholarship of all kinds as part of a monumental though as yet scarcely discerned epistemic shift regarding the role of tangible things in the generation of knowledge.[40]

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[39] Laurel Thatcher Ulrich, Ivan Gaskell, Sara Schechner and Sarah Anne Carter, *Tangible Things: Making History through Objects* (Oxford and New York: Oxford University Press, 2015).

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