SECORD IN TRANSIT

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A Natural History of this Most Extraordinary Human As Told by Witnesses and Secretly Collected by the Editors

Qureshi, Sivasundaram, & Co.
Cambridge
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Secord in transit: a natural history of this most extraordinary
human as told by witnesses and as secretly told by the editors
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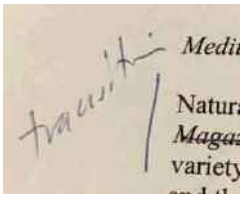
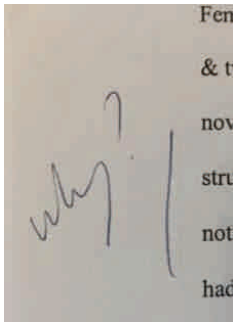
How does one write? For me, this question is bound up with what I learnt from Jim Secord.

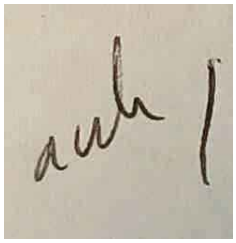


It is a question that takes on a different texture and meaning in repeated iterations. It seems different with different computer screens, in 'lockdown' over the last few months, or as I think back to what it meant to write all those years ago in the Graduate Information Technology Suite (GITS) in the main HPS building while a doctoral student. To write is to craft a sentence. It necessitates the physical production of the sentence. And it calls on the writer to imagine that the reader may in fact end up with quite a different sense of their sentence and may see the sentence in a different way on a different page. The reader may play a more significant part in the life of the thing that I write than I do myself. I recall Jim working on his book proofs for *Victorian Sensation* explaining how he was carefully determining the placement of images. Jim is the kind of scholar who is deeply interested in how sentences are set up and how pages work as assemblies; how books are made and distributed; and how people respond to scholarship. In this sense, the making of his work matches his intellectual commitments to the history of printing, reading and reception.

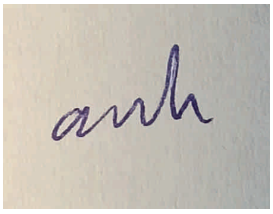


This afternoon, I have opened a filing cabinet full of notes to inspect long-forgotten draft copies of the chapters of my PhD. This filing cabinet once lived in GITS. It has a section organised according to the titles of different nineteenth-century periodicals. Was this organisation a small indicator of my attempt to follow a Secordian style of research? Probably.

The filing cabinet was close by when Jim arrived thumping down to GITS, from his room upstairs, on hearing that I had been appointed to my first job. He gave me a hug. What's not to like about supervisors who can be emotional? To be honest, I had rather excised these doctoral chapter drafts from my memory. They are covered in that wonderful and distinctive handwriting that comes from the pen of Jim Secord. I find that memories recur even as I look at the marginalia and try to decipher the words. It did always take a while to read this script!

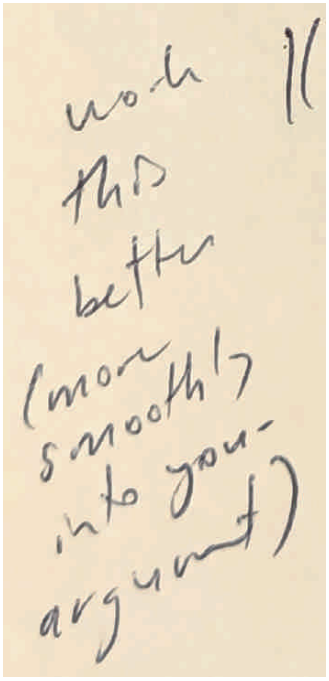


Let me give a few examples now. Was I the only shameless recipient of these two words or does he still use these more widely? 'Vague' and 'Awk.' 'Awk.' was often abbreviated for 'awkward.' And here is a tide of others: 'don't follow'; 'better define this'; 'I'd reverse this order'; 'much too sweeping'; 'claim needs sharpening'; 'are arms & legs organs?'; 'relevant?'; 'hyphen'; 'usually ellipsis does not need to be in brackets'; 'what?'; 'spell out numbers'; 'we shall talk about this'; 'is this enough evidence?'; 'use of quote marks'; 'is this all he says?'; 'this is a bit flat as a summary.' Yes, he was a most diligent reader of PhD chapter drafts. He was interested in full stops, footnotes and quotations marks as well as 'transitions' between paragraphs and sections (no surprise perhaps for someone who theorises knowledge 'in transit'), the relationship between evidence and argument and the style of the writing. It was from this commitment to the craft of writing that Jim builds his reading of the piece as a whole and whether it succeeds as a historical intervention. While a doctoral student, he advised me on how the thing I was writing could be developed in engagement with a really diverse set of scholarly works. As I reflect on my own path, what strikes me now is that this commitment to historiography beyond the history of the sciences has had a material bearing on what happened to me after my PhD. 'Do attend the lectures by Boyd Hilton at the Faculty of History.'



In addition to the way he writes and produces scholarship, his teaching also matches his intellectual commitments to the study of the materiality of books and the practices of reading and writing. Among other memories is the walk around the UL, which I believe he offered to all new PhD students. This too made it possible to place the history of science as a sequence of intellectual questions within the physical collection of books and pamphlets in a library like the UL. We walked around the West Room and the Reading Room and down the corridors of the UL. He opened those gigantic guard-book catalogues and explained how they worked;

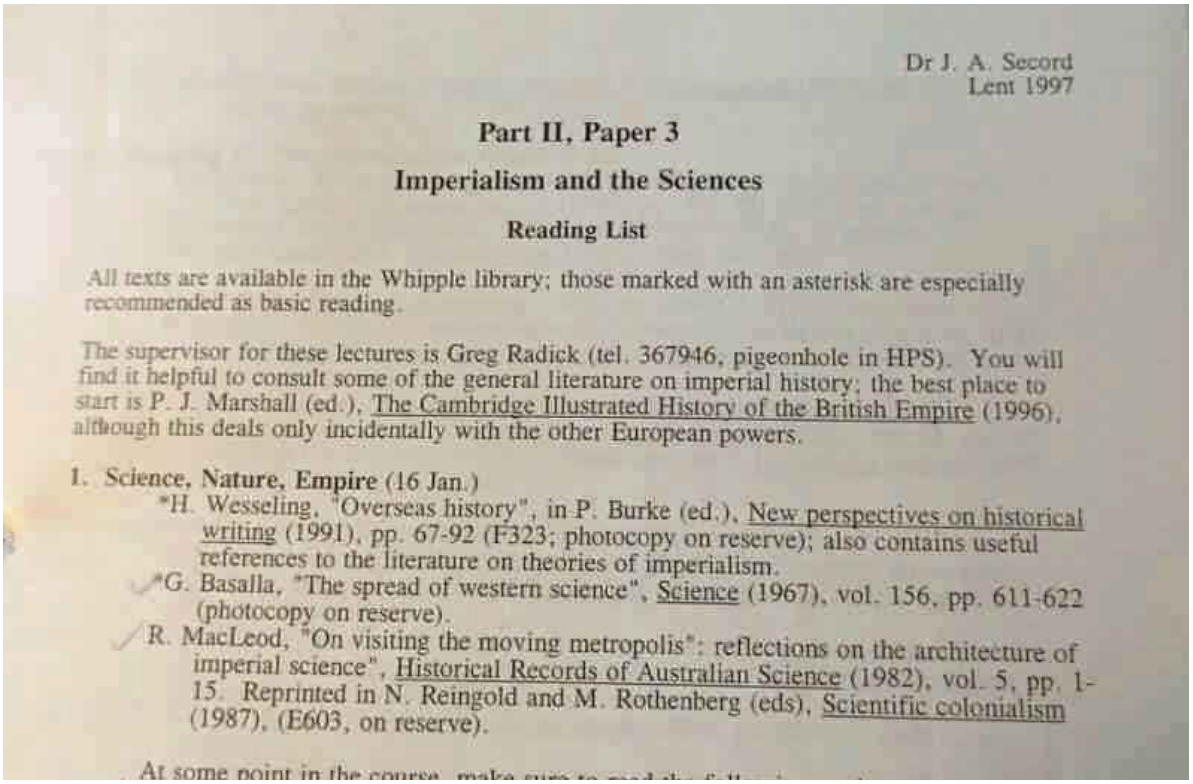
he went to that most easily-missed filing cabinet along the walls of the Reading Room and demonstrated how to track unknown biographies in the Victorian era; he went to the supplementary catalogue along one of those long corridors and showed how it worked and how those underused works could be called up; and along the shelves of the West Room he took out various printed catalogues to the periodical press in the nineteenth century. In his room in HPS were further photocopied indexes to the Victorian press which he lent to his students. When unusual sources were found, he wished to come and see them in the Rare Books Room and to talk about them 'in situ' as it were. I recall that one of my conversations before the submission of the PhD occurred huddled in a corner of the UL, possibly in the courtyard. I was pleased and surprised to hear him say that it was ready to go.



This was 'digital' research before the age of the digital: in the sense that it drew on a commitment to scrupulously scouring through unknown and non-elite pamphlets, books and through the press to recover the amateur, the popular and the public aspects of the scientific past without reifying these. As a method, it expands the archive with great ambition and moves beyond established primary sources in the history of the sciences. Tellingly, he used to say that the thing that he most enjoyed of my writing was a short piece I wrote for the Sri Lankan press on the origins of British South Asian restaurants (I used to worry that my doctoral chapters were not up to scratch when he said this). But what this points to is a life with books and also a life where bits of paper and small articles and ephemera matter deeply. At one point of my PhD, Jim used one of the images I was working on, a diagram which could be cut out to make a paper-ship named after a South Pacific missionary, to make the ship himself and to give it to me as a gift. More recently, when he edited a piece I wrote on Burma/Myanmar for the *Worlds of Cultural History* volume, he sourced and bought a copy of a Burmese currency note which I discussed in the article and sent it to me. This is a historian who fully immerses themselves in the past.

I look now at my notes from his first lecture in the 'Science and Imperialism' series in Part II HPS. I feel honoured to be in such a good company of historians who have either taken or who have supervised on this course. This includes Greg Radick who supervised me while I took 'Science and Imperialism.' I later went on to supervise this

course myself and I feel privileged to have supervised Sadiah Qureshi (she was one of my first students). The first page of my notes includes the following: 'Looking only at one part of a two way relationship. Is there actually a boundary between Europe and the rest of the world? The making of the popular and the specialist in Britain – same is true of imperialism.' That's quite revealing. While a student, Jim Secord brought to me a commitment to twinning domestic British history with wider world and imperial history and he did this by thinking of issues like circulation, reception, hierarchy, race and gender in parallel terms in multiple contexts straddling Britain and the wider world. As my undergraduate-self notes, the specialist and popular as set apart from each other might then be seen as parallel in some ways to the setting apart of Europe and the wider world in an imperial context, and indeed their knowledges too.



Dr J. A. Secord
Lent 1997

Part II, Paper 3

Imperialism and the Sciences

Reading List

All texts are available in the Whipple library; those marked with an asterisk are especially recommended as basic reading.

The supervisor for these lectures is Greg Radick (tel. 367946, pigeonhole in HPS). You will find it helpful to consult some of the general literature on imperial history; the best place to start is P. J. Marshall (ed.), The Cambridge Illustrated History of the British Empire (1996), although this deals only incidentally with the other European powers.

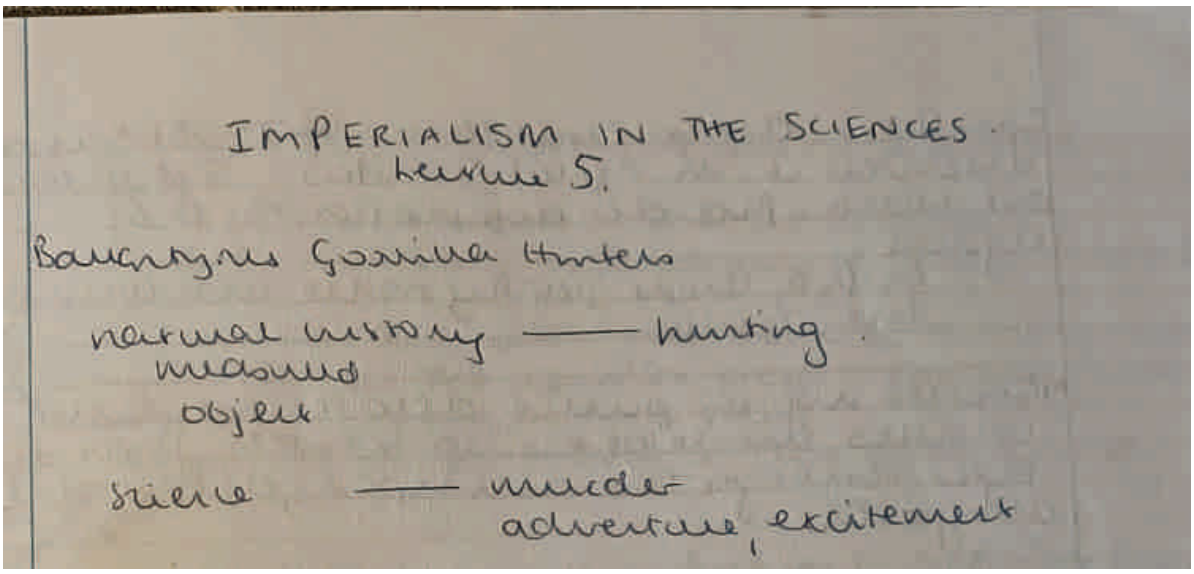
1. **Science, Nature, Empire** (16 Jan.)
   *H. Wesseling, "Overseas history", in P. Burke (ed.), New perspectives on historical writing (1991), pp. 67-92 (F323; photocopy on reserve); also contains useful references to the literature on theories of imperialism.
   *G. Basalla, "The spread of western science", Science (1967), vol. 156, pp. 611-622 (photocopy on reserve).
   R. MacLeod, "On visiting the moving metropolis": reflections on the architecture of imperial science", Historical Records of Australian Science (1982), vol. 5, pp. 1-15. Reprinted in N. Reingold and M. Rothenberg (eds), Scientific colonialism (1987), (E603, on reserve).

At some point in the course, make sure to read the full text

The notes carry on. On the third page of notes from the first lecture: 'Science is capitalist.' In reference to George Basalla's important article on the diffusion of the sciences, which I later wrote a MPhil essay on, presumably after digesting Jim's comments at this lecture: 'Ignores possibility of science adapting to the local contexts.' This first lecture ended with an account of multi-national corporations under the heading: 'Is there as much imperialism today?' In other words, the lecture utilised

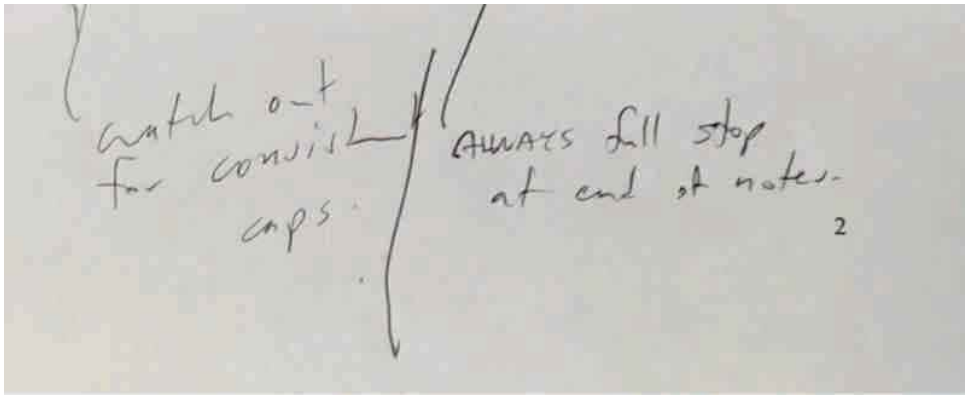
a very wide definition of imperialism. It attended to imperialism as a process which created distinct localities (e.g. Europe and the rest of the world) and how imperialism is tied up with modes of extraction as well as cultural production. It was also a lecture attuned to long durée legacies. These are all principles I would still sign up to.

Histories of writing and communication were very much a part of the agenda of this course of eight lectures. For me, the highlight was the lecture on the 'gorilla wars.' It stuck with me for years and I used it for my own teaching for a while and could not resist coming back to it on a couple of occasions in print many years later. I believe my own interest in animal histories had its initial impetus from this lecture. Right at the top of my notes for this lecture is a diagrammatic summary: 'natural history --- hunting / science – murder, adventure, excitement.' After beginning with the study of the gorilla in eighteenth-century Europe and the disciplinary history of comparative



anatomy, Secord moved into the hunting of the gorilla in West Africa and the reception of Paul Du Chaillu's *Explorations* (in my notes in capitals: 'HUGE SENSATION' 'BIG SPECTACLE – FITTED INTO HOW THE MEDIA WORKS'). The lecture then shifted to Charles Kingsley. And then came the account of the contemporary controversy around Du Chaillu's status, ethnicity and style of writing and how contemporaries disputed his findings as fact and evidence because of who he was. A big point that Jim made was that evolutionary history and debates about the structure of the brain came to public attention via interest in gorillas; gorillas set 'the public stage on which esoteric issues would be discussed.' The last section of the lecture on imperial spectacle was prescient when viewed in light of protests that we are still living

through. According to my notes, the image of the gorilla consolidated 'public opinion that white civilisation is at the top of the ladder.' Tellingly, given his commitment to twinning different modes of hierarchy and stratification, he also referenced the Irish in conceiving of the rise of white supremacy.

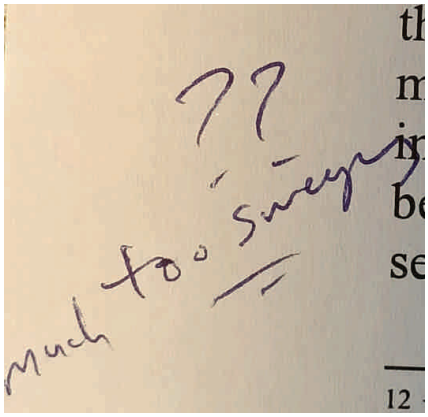


Like many doctoral students who are working in the shadow of important supervisors, after some years I sought to find some space beyond these commitments to the practices of communication in the making of nineteenth-century science. In turning to Sri Lankan palm-leaf texts in my own research, I was aware that these texts, replete with medical and botanical information among other topics, are fundamentally 'unwritten.' No ink is involved in making palm-leaf texts and often-times no single author or group of authors can be identified. Indeed they are scratched or embossed with a stylus. They are the remnants of an oral and Asian culture of knowledge transmission. One reason I decided to study them is because they didn't fit within established models for the circulation of scientific knowledge including ones I had learnt as an undergraduate. More recently, in writing *Waves Across the South*, I suddenly realised that a tide of English print which historicised the Indian and Pacific Oceans was upon me as I approached the 1850s. Partly because of Jim's teaching, I began to think about this mass of print as deeply exclusionary. I argued that the origins of Britain's imperial history-writing lies in this moment. This print displaced and pushed to one side the indigenous and at times, incredibly, historians even collected indigenous remains. Printed histories of empire were racist and violent. Collections of printed paper needed and still need to be challenged. These points are part of a longer conversation which I am sure that Jim and I will carry on in the years ahead.

But before Jim becomes too much of a super-hero in these reflections, I should make sure to note another long-standing influence. The memory that helps me make this point arises from a conference I attended as a graduate student called, 'Locating

the Victorians.' I was nervous before I spoke as it was a large conference, probably the largest at which I had spoken. But then I looked up and saw Anne in the audience. I asked myself: why is Anne here? Surely there are more exciting speakers on the programme? She had read the paper already and given me really astute notes (in much better handwriting than Jim's in fact). She had heard me give it at the Cabinet of Natural History. And she was also one of the highly selective audience –just two people – who heard me deliver it at one of those HSS conferences in the US. So this was perhaps the third time she heard me deliver it. Anne was as important as Jim to the publication of my first article. I remember being influenced by 'Science in the Pub.' I'm sure her scholarship was partly in Jim's mind as he made his argument in the lectures about the symmetry between imperial contexts and the relations of specialist and popular knowledge. Their partnership lies in shared intellectual commitments and as my experience bears out it also lies in a deep loyalty to students.

I should end by stating something plainly and simply. The other day I was on a lock-down walk and passed a house (owned by Christ's College where Jim is now a Fellow). I lived in it while a MPhil student in HPS. One distinct memory I have is of Jim ringing me on the phone while I lived there. He said he had checked some catalogue of some kind and that he had decided that a study of the history of science and religion in the Pacific would fill a distinct gap in the literature and that he would take the project on for doctoral supervision. If not for that willingness to take a risk with a shaky writer, or to work with a Sri Lankan who had given up on History at school where it was taught as a succession of empires, I am sure I would not be here still trying to write paragraphs and hoping they aren't 'awk.'



Sadiah and I have brought this collection of short contributions together in the hope that the various different styles and approaches adopted by the writers will be in keeping with the way Jim thinks about writing and reading, correspondence, scholarship and materiality. The contributors mirror themes and phases in Jim's scholarship - key 'transits' perhaps. They also reflect the many kinds of intellectual exchanges and friendships that Jim has nurtured over the years. It has been a moving experience to bring them together as so many of them are so emotional and heart-felt. This again is no surprise — it is fitting.

GEOLOGIES

Boyd Hilton
A Careless Rapture

It must be very difficult to write a book which is at once definitive and seminal. Perhaps that is as good a description of a tour de force as any. Anyway, it is what Jim achieved with *Victorian Sensation*. I would like to add a brief personal note to the chorus of appreciation that is greeting his official retirement by sharing a memory I treasure of our brief pedagogic collaboration in the years just before the great book was published. Forgive me if I start with me. I spent the 1980s writing a study of the interplay between religious belief and socio-economic thought in the nineteenth century. I saw no point in trying to decide which influenced the other since their relationship seemed much like that of the chicken and the egg. But at some point I read Bob Young's equally seminal article on the common context of Darwin and Malthus and also Jim Moore's eye-opener on the post-Darwinian controversies, and afterwards I could not read a contemporary journal, sermon, treatise, or even political speech without noticing all sorts of parallels with scientific debates, in particular those relating to geology, vitalism, the understanding and treatment of fever, and thermodynamics. This was fun, but I was under no illusion as to the superficiality of my analysis. Indeed, as far as the science was concerned there was no analysis at all. I was using scientific theories merely as tropes to illustrate or embellish my more fundamental thoughts on religion and economics, in the same way that I rifled novels for relevant quotations showing contemporary awareness or half-awareness of those same parallelisms.

Between 1989 and 1995 I ran a special subject on Britain in the 1830s, with a focus on intellectual and cultural arguments across a wide range of topics. Politics came into it too, but mainly to show how struggles for power either involved or led to struggles for control of the prevailing narrative, and consequently how unexpected shifts in political authority could in turn affect the ways in which intellectual battles panned out. In

other words, it was political contingency that led to paradigm shifts rather than the failure of normal science to explain empirical evidence. By this time I was able to take advantage of great books such as Martin Rudwick's on the Devonian Controversy and Adrian Desmond on the politics of evolution, and I had also become very friendly with Maggie Pelling and Pietro Corsi, so I was a bit more educated than before. I enjoyed my first year of the special subject, but I *hugely* enjoyed my second year, which operated at a much higher gear. You may suppose that I am going to say that Jim entered my life at that point and transformed my understanding, but I'm afraid Jim will have to wait. In fact what happened is that two eager young research students from HPS, both students of Simon Schaffer, came to see me in October and asked if they could sit in on my classes as it would help them get a feel for the general politics and culture of the period. Of course I said yes, though it's possible I felt a bit apprehensive about it: it's harder to pull the wool over undergraduate eyes if there are sceptical and knowledgeable postgraduates sitting in the corner, but Will Ashworth and Alison Winter were wonderful. I wanted to bring them into this story, not only because of their friendship with Jim and Anne but also because they seemed so central to the energy that I could feel coming out of HPS, in those years even more than usual. Will won't mind if I especially plug Alison, who died so tragically and who really was a force of nature, a tour de force in person. Will and Alison did a great deal more than just sit in a corner, but their active participation was always tactful and respectful of the fact that these were first and foremost teaching sessions, not research seminars. And it won't surprise those who knew Alison and know Will that they eagerly volunteered to lead some of the classes in subsequent years and did so with aplomb. It was around now and through them that it dawned on me just how enmeshed religion, or at least the then dominant religion that I was most interested in—a natural law type of evangelicalism based on assumptions of general providence—just how thoroughly enmeshed this was with the increasingly dominant scientific ideas of the day. It is not that I had ever fallen for the notion of a warfare between religion and science, but it was only now that I began to think that shifting understandings of the natural world might have been the first of causes and that my candidates for the chicken and the egg—religious faith and social science (or vice versa)—should both be regarded as epiphenomenal.

Anyway, and to get to the main point, it was through Alison and Will that I got to know Jim, and I did so at a time when the ideas that would become *Victorian Sensation* (2000) were really pulsing through Jim's veins. The unsuppressed excitement of someone who knows he is on to a winner was palpable. Anyway, we somehow decided

that we would offer joint lectures to take place in the History Faculty but advertised to HPS students as well. I think it was probably his idea, because I also remember how keen he and some of his colleagues were to make an impact on a Faculty which in those days—it's very different now of course—but in those days was institutionally wary of HPS. They had even declined to accept the offer of an HPS special or specified subject in the 1980s, allegedly because it was not quite 'History'. Anyway, Jim and I set to and we did it for four years. In 1996–97 our title was 'Science, religion, and cultural conflict in the nineteenth century', and after that we narrowed the chronological range to 1830–1870.

My most vivid memories are of the first year. I was reading Lyell's *Principles*, Davy's *Elements*, and many other scientific tracts for the first time and was working excitedly from the texts, seeking to suggest how one writer influenced another, and using the evidence of private correspondence to throw light on authorial intentions and strategies. Jim of course approached the subject very differently. He seemed less interested in the doctrinal content of texts than in their modes of production, dissemination, and especially reception. His key insights were located within a kaleidoscopic survey of the entire world of print culture and reading. Teased out of a wealth of micro-histories on a diverse array of subjects, they threw new light on many of the idiosyncrasies of the age, such as the cult of anonymity, changing concepts of gentility, notions of self-development, and anti-clericalism.

During the first couple of sessions our respective approaches seemed to be happily complementary, but in the third session it dawned on me that I was under attack. This had taken some time to dawn because it was an immensely polite, friendly, ostensibly self-deprecating, and even unctuous attack, but an attack nonetheless. Jim focused on my 'Old Hat' paradigmatic approach—my interest in showing that those who subscribed to X-type religious belief were likely to advocate Y-type socio-economic theories and adopt Z-type understandings of the workings of the natural world. As I remember, he had a high old time in (ever so kindly) dismissing this approach as a way of pinioning different writers in terms of simplistic formulae. He said he imagined my cast of characters as cartoons with little bubbles attached to their heads: 'pre-millenarian blood-letter', 'uniformitarian monist'. And he likened this to the way in which Dickens often attached labels to his characters as a preface to his novels—'Mr. DICK, a harmless lunatic', 'MR. P. TOOTS, a wealthy young gentleman, of good heart but inferior abilities'. Worse still, I was reducing their complex ideas to the status of 'walking homologies' (I think that was the phrase, or it might have been 'talking').

I am mild-mannered (I think) but I could not take this lying down, if only because I now saw that I was fighting the cause of the Historians in the audience. I had a defensive response, and I'm grateful to Jim since he helped me formulate it. I protested that, because he was very self-conscious about method, he attributed a method to me, one that he thought 'Old Hat', whereas I had arrived at my ideas 'with my hands', as it were, as historians like engineers mainly do. In other words, that I would not have written about the eighteenth or later nineteenth centuries in the same homological or paradigmatic way, but that in the 1800–1860 world, which was Dickens' own world no less, people often sought refuge in the comfort of formulaic or schematic approaches to ideas and to the 'spirit of the age' because of bewilderment about how else to convince themselves that anything was true, political revolution and rapid social change having discredited all traditional sources of authority. In other words, analogical arguments served the same purpose as those voguish practices like counting, collecting, classifying, measuring, and mapping—to reassure inquirers who (in a famous phrase) felt themselves to be adrift in an open ocean without a compass, to reassure them that there were truths to hold on to. For that reason, someone who resisted this tendency complained in 1825, 'love of system prevails over love of truth.' I also tried an attacking response, which was that at certain nodal points in his argument—when he wanted to explain how ideas and meanings evolved, Jim could be sneakily intentionalist in argument, though it was often hidden by the glorious profusion of interesting and novel circumstantial detail. I cannot remember now how cogent or fair this criticism was. I'm sure it did not scratch the surface of his self-esteem for a moment, but that wasn't the point. The point was to repair the surface of my own self-esteem and to cheer up the History contingent present. I am fairly sure that when he got *his* students to himself back in Free School Lane, he will have had fun dissecting me as a Kuhnian fossil, or even heaven forbid a throwback to Plamenatz.

Anyway, the simple point I am trying to make is that I have rarely felt so exhilarated or tensed up in a classroom as I was that year. Jim seemed thoroughly engaged as well, and my sense was that our audience enjoyed our ding-dongs as much as we did. I think the Historians especially must have felt the electricity between us, since in those days most of the Faculty's Part I teaching was of the 'face-the-front' type. HPS IB I guess was a bit more sophisticated, but I might be mistaken.

The second year also went extremely well though some of the spontaneity had gone. There was slightly less outrage and indignation on show since we had both honed our defensive skills. As for the third and fourth years, well, I trust that we gave value

for money but we were a bit stale and found it hard to capture that first fine careless abandon. I do remember that before the fourth outing we briefly contemplated swapping roles, but neither of us trusted the other to make a sufficient fist of our own version of truth. After that, sabbaticals and other projects got in the way. *Victorian Sensation* had been published and was causing a sensation. So we never trod the boards together again, but as you will have gathered that was probably for the best.

Twenty years on it is enormously satisfying to note that Jim's official retirement has coincided with his election to the British Academy. I might have written 'fitting' instead of 'satisfying' except that it has come far too late for that word to apply. I sense it was the mission of Jim's generation as of its predecessor to throw off what was sometimes regarded as the interstitial status of the history of science and to establish its centrality to an understanding of all the humanities, as well of course of science. So far as the 'academy' with a small 'a' is concerned, they achieved their ambition many decades ago, and slowly but surely the institutional Academy with a big 'A' is catching up.

In preparing this piece I turned up a card from Jim dated February 2010. It thanked me for something and ended with a reference of two of the walking homologies that peopled my classes: 'Maybe I'll be able to find some 'monists' and 'dualists' for my next book'. I still hope and wait.

Brian Dolan
The Discovery of a Profession

Thinking back to the days when I researched the history of geology is like excavating a fossil from the Cambrian era of my memory bank. But as the vision begins to emerge it brings with it many fond recollections of an evolutionary process that characterized my time as a graduate student working with Jim.

Academic life has its curious coincidences. Think about how many times separate scholars will produce a book on a very similar topic within a short time of each other. The two that I'm thinking about are Martin Rudwick's *The Great Devonian Controversy* (1985) and Jim Secord's *Controversy in Victorian Geology* (1990). I was an undergraduate when Jim's book was published and was working on a senior honor's thesis about Adam Sedgwick. During that time I had a couple of opportunities to visit Cambridge and conduct research at CUL and the Sedgwick museum. I had already read Rudwick's book and remember reading Jim's book while sitting at a pub near the Cam. Following a somewhat spontaneous decision, I decided to step into the HPS department and inquire about pursuing a graduate degree and was told to talk to Nick Jardine, up a hazardous flight of stairs into the attic. That's when I learned that, by complete serendipity, Jim was about to join the HPS faculty.

I wrote to Jim expressing my interest in pursuing my PhD with him, and a few months later, during another research trip, I met with him in the Grad Pad. He had read a draft of my senior honor's thesis (I remember he used the word 'brilliant' in reference to it, but later learned that that word is more colloquial in British speak) and he thought the topic was something he could help me with as an advisor. That is what brought me to the department.

Over the years, as I have taken on different university positions and taught various students, I have reflected on what essential functions a graduate advisor should possess.

One lesson learned while working with Jim was how practically-oriented the guidance should be. For instance, I remember he took me on a guided tour of Cambridge University Library. Walking around the reading room, we went from shelf to shelf so he could explain the utility of various reference works, such as the guide to nineteenth-century periodicals. Fundamentally, if it was not for this very structured approach to navigating historical sources, I would not have been able to get the materials together to finish a dissertation in three years. I've tried to emulate that, and for many years took our new cohort of graduate students to the UCSF library to show them books. I even asked the archivist to fetch Vesalius's *De humani corporis fabrica* (1543) so they could learn how to handle delicate objects. I miss those days. Over the years, our library has removed all the books and shelves to make space for student cubicles and study rooms. All research is turning to the digital world and I find myself asking the new students how to navigate it.

Over the years I have grown more nostalgic for roaming around the stacks of CUL and having tutorials with Jim in the tearoom. Everything was so different then. I did not end up writing a dissertation about Sedgwick because, as is commonly the hazard with historical research, I kept looking further back in time to understand the context for what was to come next. That's how I stumbled across Edward Daniel Clarke, the first mineralogist at Cambridge, teacher of Sedgwick, intrepid traveler, and famous collector of curiosities. He was also a pioneer of blowpipe analysis, and I remember feeling that I had made my mark in history when Jim was lecturing to undergraduates about revolutionary scientific instruments and listed the blowpipe among them. I also remember him walking into the department one day and eagerly telling me that William Otter's two volume *Life and Remains of Edward Daniel Clarke* (1827) was for sale in a stall at the market. I ran over and made the purchase, and to this day they sit as prized possessions in my office.

The leather-bound books remind me of the material culture of knowledge that Jim was, and no doubt remains, so good at handling and making meaning from. The aroma of the books and the feeling of dust on my fingertips as I flip the pages reminds me of the training he provided me, to roll up the sleeves and dig in. I appreciate the freedom he gave me to explore new ideas and lives, and in doing so never feeling lost at sea because of an underlying comfort he provided in working among the sources.

It's nostalgic because over the last couple of decades my professional career took shape in ways that look almost nothing like my graduate student days. Instead of going further back in time, my research has moved closer and closer to the present. Instead

of perusing books and sorting through manuscripts, I call up websites and do keyword searches. Instead of reading about the 'life and remains' of my subject, I interview people about their activities. While this keeps me employed, it has had the unfortunate effect of limiting my interactions with Jim over the years and has rendered my memory of controversies in Victorian science rather fuzzy.

But I am happy that the strongest sensation to me, as I reflect on Jim's guidance, is the enjoyment and excitement I had while a student at Cambridge, and the very solid foundation Jim helped create for me as a young historian.

I wish you well in retirement!

Caitlin Donahue Wylie

The Invisible Labor of Supervising Students: How Jim Prepares Scholars

Once, sitting in his asymmetrical office tucked under the eaves of HPS, Jim said to me in all seriousness, 'When else but with you can I talk about my two favorite things: dinosaurs and people?' This rhetorical question, full of Jim's characteristic enthusiasm, reassured me that my ethnographic study of 21st-century paleontology laboratories had a place in HPS and in his expert historian's mind. With that question, Jim demonstrated the empathy, enjoyment, and open-mindedness of an excellent mentor. Here, I reflect on how he carries out the crucial work of helping his students learn.

As a PhD student, I thought a lot about how today's technicians prepare fossils for research and display by artistically removing rock from fragile, otherworldly bones and creatively piecing them together into dinosaurs and facts. Paleontologists largely ignore these low-status preparators, even though their painstaking work literally shapes the specimens that form the foundation of vertebrate paleontology. Now, as an assistant professor, I think a lot about how Jim prepared me—and so many other students—to study and teach. During weekly supervisions from 2009–2012, Jim chiseled the rock off my roughly developed ideas, glued my paragraphs together when they shattered all over the page, and led me to see the big picture, to imagine the dinosaur constructed from my fractured shards of evidence and argument. This crucial, difficult work of preparing students, like that of preparing fossils, goes largely unseen and unrecognized. So here I try to identify the bedrock of Jim's expert supervising, partly to celebrate his skill and partly to make his tacit knowledge more explicit for the benefit of all of us who aspire to teach and inspire like he does.

First, Jim's speed at processing the written word—especially poorly written words—is unparalleled. When I arrived for our meetings, he would print my laboriously written draft and ask me to come back in 'ten minutes.' I would wring my hands

anxiously in the tea room as Jim read, interpreted, and planned how to fix my messy text, all in merely ten minutes. Unfortunately for Jim, I am a re-writer by nature. I write to think, and Jim has read a truly incredible volume of my experimental thoughts (and at great speed). When I returned, he would have written about five illegible words in the margins of my many pages and he would be ready to discuss every idea in detail. He would speak in pauseless paragraphs about the draft's strengths and weaknesses, from the evidence, theory, and argument to sentence structure and Secord's Rule of Chapter Length. (And God help you if you ever justify the edges of the text or fail to double-space.) He would tell me with a grin when my work wasn't 'prepared out of the rock yet' and where I should 'dig' next to make it better. I spent the vast majority of these supervisions frantically trying to capture Jim's wisdom by scribbling notes in a single notebook that I guarded for three years. On our last meeting before I submitted my thesis and left the UK to start a job, my scribbles reached that notebook's last page. Jim was very struck by that timing as we said goodbye. Since then, he has read countless versions of my papers as well as an often-rejected manuscript that will finally become a book in summer 2021.

Jim is a talker and I am a listener, as demonstrated by my filled-in notebook. Perhaps as a result, his greatest superpower is knowing when to be quiet. I hung on his words, both during supervisions and afterwards while poring over my notes, but whenever he would stop talking, then I would really pay attention. That meant he expected me to figure something out on my own and he was going to wait for my revelation. He sometimes did this about topics that he thought I knew more about than he did, such as sociological research methods and how to plan ethnographic fieldwork. The most powerful example was when, in my third year, Jim asked for the final title of my thesis. I sat, pen poised, waiting for him to tell me the title. I'm sure he had opinions about it, but he was quiet until I realized that this responsibility was mine, not his. I had no answer in that moment, and Jim reassured me by telling stories about how his titles have occurred to him out of thin air. Sure enough, a few weeks later, while riding a bus, a title dropped fully-formed into my brain. With it came the surprising insight that my research was not just about fossils and dinosaurs; it was about technicians and the role of invisible labor in today's science. Jim gave me the space to unearth that perspective—'dinosaurs *and* people!'—for myself.

Jim's teaching was certainly not limited to or even focused on my writing. My archive of supervision notes contains his advice on a variety of topics, including how to learn research skills, think about my professional future, apply for jobs, supervise

undergraduates, host visiting speakers, give conference talks, and publish articles, in addition to more prosaic guidance on how to earn a PhD. He supported my decision to supervise (a lot of) undergraduates in several HPS courses. Furthermore, he encouraged me to learn how to teach well, such as by observing different professors' lecture styles and taking training courses. This eminent scholar demonstrated the vital importance and intellectual challenge of teaching, both in his advice and in his deep investment in his own courses. When I started running HPS seminars and reading groups, including the Cabinet, I worried that Jim would think I was wasting time away from writing. Instead, he applauded these opportunities for me to build relationships with attendees within and outside HPS. Clearly, Jim sees graduate school and his supervising as a way to prepare students to learn professional and personal skills beyond research.

I was initially surprised by how often Jim pointed me to other people to learn about diverse topics, rather than just teaching me himself. He suggested endless publications for me to read, of course, and also pushed me to email the authors of papers and books I admired to try to start a conversation. He sent me to talk to people and attend courses all over Cambridge. His encouragement to seek out help from other professors and students was not to farm me out, as an outlier non-historian student, but rather to teach me how to learn and, crucially, to help me create a scholarly community. As a result, while doing the awkward social work of what he called 'growing reviewers,' I brazenly asked intimidatingly brilliant professors for meetings, for suggestions for sources I should read, for their syllabi or invitations to attend their courses, and even for comments on my drafts. This was no small feat for a shy and uninitiated graduate student, but receiving replies was so enlightening and encouraging that I kept reaching out. Moreover, I was impressed by Jim's assumption of his colleagues' generosity to a student who wasn't their responsibility. He was showing me the moral economy of being a scholar.

Finally, crucially, Jim is a pleasure to learn from. He peppered his supervision comments with stories about his former students, his experiences as a graduate student, and how, as a child, he had refused to play with dinosaur toys that had not lived during the same geological era. When deep in thought, Jim crosses his legs at the knee and the ankle simultaneously, which seems impossible until you see him do it effortlessly. He asks questions in seminars that are beautifully phrased and warmly polite yet cut to the very heart of the ideas under discussion. I think of him every time I begin a sentence with 'there's a way in which' and when I wear the Secordian tweed jacket with elbow patches that I bought to begin my first job (see the photo of us in tweed at the 2014

HSS conference). No one can fully match Jim's skill at teaching and mentoring, but we can try by reading and thinking fast, using silence powerfully, being ourselves, and, most of all, preparing scholars rather than theses.

Edwin Rose

A Sensational Succession of Ownership: One Copy of William Howitt's *Book of the Seasons* (1831)

On 19 October 1831 the noted botanist and translator of Dante, Sir Charles Lyell, gave his youngest daughter Elizabeth a copy of William Howitt's *The Book of the Seasons; or the Calendar of Nature* (1831). Charles and Elizabeth Lyell were almost certainly the first owners of this volume, the first in a long line that included some of the most illustrious figures in nineteenth century science. I hope to use this short note as an opportunity to shed some light on the former and current owners of this book since its publication.

The note Sir Charles Lyell inscribed towards the top of the title page in this copy of Howitt's *Seasons*, 'Elizabeth Lyell, Kinnordy. 19th Oct. 1831' probably means it was presented to Elizabeth as a gift on her seventeenth birthday. Although the book does not seem to have received any particular attention in the form of marginal annotations, the fact that Lyell gave his children, and presumably encouraged them to read and think about, works such as Howitt's is significant. William Howitt (1792–1879) addressed his *Book of the Seasons* to 'all classes of readers' and it seems that Charles Lyell presented a copy to his daughter to promote 'that general acquaintance with Nature'. Many of Lyell's children received gifted similar books as gifts during their childhood, works they kept in a newly built library in Bartley Lodge, Hampshire. Howitt's work followed a long tradition of observing subtle seasonal changes in one's immediate surroundings, perhaps best exemplified thorough the work of figures such as Gilbert White, whose *Natural History and Antiquities of Selborne* went thorough numerous editions after its initial publication in 1789. The reading of such books would have undoubtedly inspired the Lyell children's close understanding of nature from an early age and influenced their later interests.

The first owner of this book, Elizabeth Lyell, was born at Bartley Lodge on 19 October 1814 when her brother, Charles Lyell (1797–1875) was already making an impression on his father who commented that he was 'proud of his scholarship'.[1] However, it seems that Elizabeth remained in a state of perpetual illness for much of her life. This increased in intensity as time went on and by 1835 her brother Charles referred to her as 'the invalid Elizabeth'.[2] In February that year Frances Lyell, Charles's and Elizabeth Lyell's mother, reported a slight improvement in Elizabeth's health to the physician and geologist Gideon Mantell although by 14 October this had degraded to such an extent it caused Charles Lyell to report: 'I am sorry to be obliged to give you a very unfavourable account of my poor sister Elizabeth. She has during the last few weeks lost strength & flesh very rapidly & is now so weak as to be unable to move from one room to another without fatigue. Nevertheless she still expresses a wish to spend the winter at Clifton thinking she will derive benefit from it'.[3] Elizabeth died from consumption on 25 October 1835.[4]

After Elizabeth's death at Kinnordy House, it seems probable that her copy of Howitt's *Book of the Seasons* would have been incorporated into the one of Lyell's libraries at Kinnordy or Bartley. After the death of Charles Lyell in 1849 this book would have passed, along with Kinnordy House, to his son Charles. As has been suggested, exposure to this kind of book inspired a subconscious influence on Charles Lyell's romantic view of nature.[5] They shaped his means for observing the world and thinking across periods of time – whether these were following seasonal observations in his local area, as expressed by Howitt – or when making broader observations of change, continuity and process in his geological work. The library of Charles Lyell senior and its inclusion of the most up to date publications that were regularly ordered from London was essential for influencing the development of his children and, in turn, one of the most influential geologists of the nineteenth century.

After the death of Charles Lyell in 1875 his books, manuscripts and estate passed to Leonard Lyell, a nephew. As the twentieth century progressed, many books and manuscripts were dispersed at several private sales by the Lyell family. Some were

1. Leonard Wilson, *Charles Lyell: The Years to 1841: The Revolution in Geology* (New Haven and London: 1972), p. 31.

2. Charles Lyell to Gideon Mantell, 3 January 1835.

3. Charles Lyell to Gideon Mantell, 14 October 1835.

4. Wilson, *Charles Lyell,* p. 421.

5. This has been interpreted by Leonard Wilson in relation to Lyell's reading of James Thompson's *The Seasons* that first appeared in its full form in 1730. See Wilson, *Charles Lyell,* p. 28.

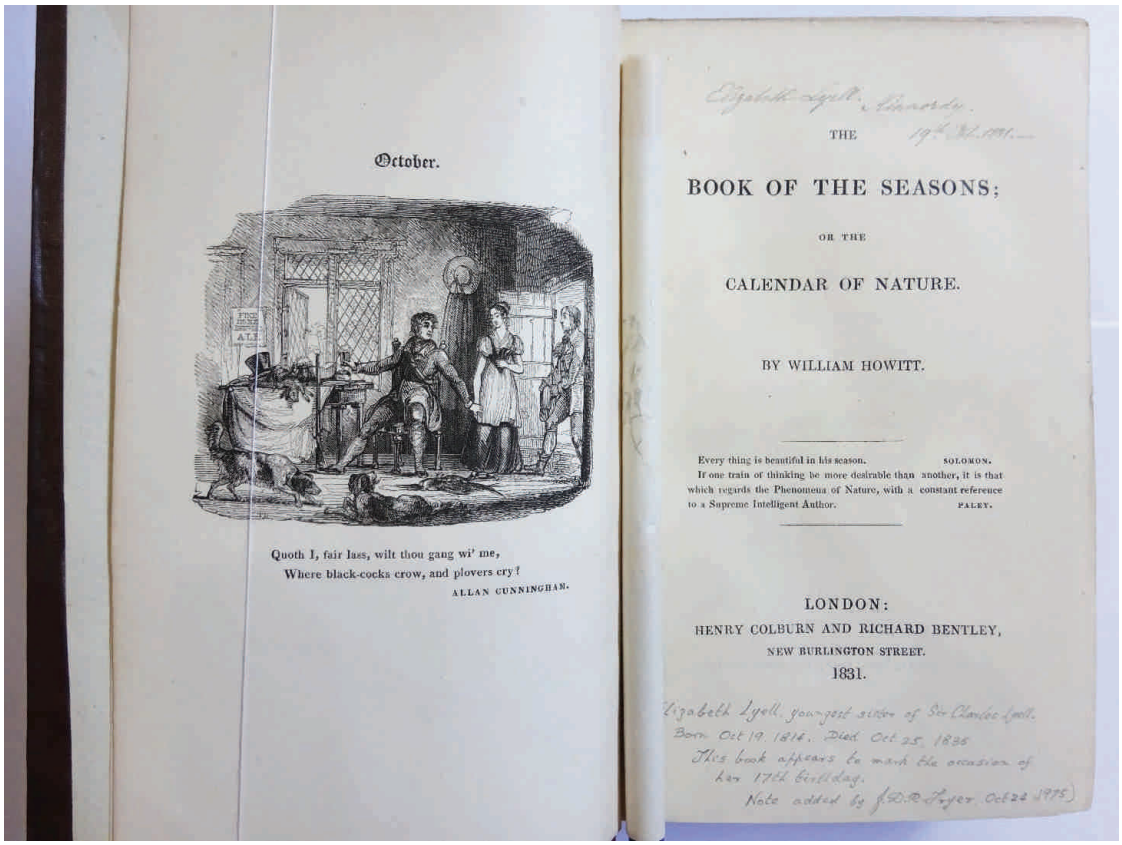


Figure 1. The title page and frontispiece from the copy of William Howitt's *The Book of the Seasons; or the Calendar of Nature* (London: 1831) on which several signs of provenance have been left since its initial publication.

donated to the University of Edinburgh in 1927 or, in the case of the much-publicized notebooks, acquired by the same institution after a Sotheby's sale in 2019. Although it is not altogether clear when this copy of Howitt's *Seasons* left the Lyell family, it seems to have done so some time before 4 October 1975 when John David Russell Fryer, the curator of the Geology Museum at King's College London, acquired this book and added a pencil biographical note on Elizabeth Lyell to the foot of the title page.[6] Fryer's interest in this volume was probably inspired by the history of his own institution. Lyell had been appointed as Professor of Geology at King's in 1831 where he remained until his resignation in 1833.

The specific locality of this volume between 1975 and 2018 remain unknown to the current author, who purchased it from Greyfriars Bookshop, Colchester for a very reasonable price in April 2018. Conversations with Jim Secord about his research trips

6. See *King's College London: University of King's College and King's College Theological Department Calendar, 1970–1971* (London, 1971), p. 56.

to examine Lyell manuscripts at Kinnordy House, which still stands near Kirrimuir, Angus, Scotland, ensured that I recognised the importance of the inscription and assessed that a volume on this subject matter, with an exemplary provenance, was probably worthy of entering the Secordian Library once I finish my doctorate. Over the last few years Jim has shown me the importance of recognising, understanding the significance of and interpreting the provenance of the books used in my research, something exhibited throughout his own work and exemplified in the masterful *Victorian Sensation*—in which there is a fascinating discussion of how Lyell was able to condemn *Vestiges of the Natural History of Creation* without even reading it.[7] Although I assume many of Jim's students have, quite rightly, given him books as tokens of thanks for a stream of continued help and support, it is my hope that this particular volume will play into Jim's great interest in children's books, book ownership and use, the Lyell collection and geology, inspiring new scholarship for many years to come.

7. James A. Secord, *Victorian Sensation: The Extraordinary Publication, Reception, and Secret Authorship of Vestiges of the Natural History of Creation* (Chicago and London: 2000), pp. 212–213.

Felix Driver

Science for the Zillion: The Enthusiasms of Jim Secord

Jim Secord has a lot to answer for. Reading his 1982 *Victorian Studies* paper on Roderick Murchison, 'The King of Siluria', prompted me to wonder about the histories of Victorian geography and empire when I should actually have been working on nineteenth-century social policy, the subject of my PhD. Using Murchison's career as a prism, Jim's paper (one of the first he ever published) argued the case for a deeper history of the relations between 'science, militarism and empire'. And that meant, he concluded, not merely studying what people say – and how they say it – but also what they do. If we have a much richer understanding of the entangled histories of geography and empire today than existed in 1982, it is in no small measure due to the enthusiasms of Jim Secord.

Figure 1. Sir Roderick Murchison, detail from 'The British Association', *Punch*, 23 Sept 1865, p.113 Reproduced by kind permission of TopFoto.

The subject of Jim's 1982 paper, Sir Roderick Impey Murchison, was a ubiquitous and commanding presence in the landscape of mid-Victorian science: like Joseph Banks in his day, Murchison had a finger in every pie. The extent of his influence, his polished urbanity and his eye for publicity was gently satirized in a *Punch* cartoon of the 1865 British Association meeting, reproduced in Jim's article. Here Murchison was depicted as the panjandrum of the Geographical Section, presented in immaculate style (those pantaloons!) and supremely confident in his position as master of ceremonies. I liked this image so much that I used it twice more, once in my book *Geography Militant* and before that on the front cover of a collection of essays edited with Gillian Rose on the histories of geographical knowledge (*Nature and Science*, HGRG 1992) which was directly inspired by the work in the history of science. (It included contributions from Roy Porter and Ludmilla Jordanova).

A couple of years later, in December 1993, Jim Secord gave a seminar in the series convened by the London Group of Historical Geographers at the Institute of Historical Research. The title was 'Narrative landscapes: the global, the local and the domestic in interpretations of the Scottish Highlands'. He spoke instructively and entertainingly about the image and practice of fieldwork; about the gendered cultures of mid-Victorian geology; and about Darwin and the Parallel Roads of Glen Roy. But my recollection of all this scholarship and good wit has unfortunately been overshadowed by the animated conversation which followed, over dinner in a Chinese restaurant in Bloomsbury's Brunswick Centre, during which Jim uttered the word "zillions" – a word with which he has, unbeknownst to him, been associated, in my mind, ever since. The context of this utterance remains obscure: it may have been a passing reference to the 'zillions' of atoms in the physical universe, to the 'zillions' of readers that Robert Chambers no doubt had, or perhaps to the 'zillions' of different interpretations of Darwin's writings that have ever existed. But whatever its referent, zillions was the operative word, the one which stuck in my mind. Ever since then, it is the term that I have most associated with Jim, encapsulating his unbounded capacity to enthuse to any audience about the Victorian enthusiasm for science.

At this moment, a generation ago, the foundations were being laid for the study of what is today called in many bookshops "popular science", a subject which is treated more academically within a whole host of different sections of the academy, including science studies, literary theory, Victorian studies, biography, sociology, geography, anthropology and cultural studies. It seemed to me then, as it still does now, that the field of the history of science was a remarkably stimulating one for those interested in

working across disciplines – and especially those who wanted to explore the various different ways science matters in society. As in the case of Bernard Lightman in the USA, Jim Secord's work has shown a generation of students of Victorian culture how vitally necessary it is to read across the boundaries of science and literature, and also to question received wisdoms about where these boundaries lie, in order to re-imagine the worlds of Victorian science.

In October 2001, Jim gave another seminar to the London Group of Historical Geographers, in the wake of the publication of his magnificent study of the reception of Robert Chambers' *Vestiges of the Natural History of Creation*. Appropriately enough, the topic was 'Reflections on the geography of reading in Victorian Britain'. This time, his was the lead seminar of a term devoted to the theme of 'Geographies of Print' and quite rightly so: for my money, *Victorian Sensation* was and remains the single most important contribution to the understanding of the print culture of Victorian science, and its spatial frames of reference (evident a decade earlier in his London seminar on Highlands geology) were at that time much evoked and debated. Sadly, once more, I cannot quite put my finger on the actual substance of talk that day, though it's possible that by autumn 2001 even he had had more than enough of *Vestiges of the Natural History of Creation*! What I do remember, though, is the passing round the seminar room, from hand to hand, of a miniature bust of Darwin, no doubt there to press home some point about his iconic status. This reminds me of something else important in much of Jim's work, in his talk as well as his texts: his eye for the comic, and sometimes the downright absurd. The story of science for the zillion contains a good deal of humour.

While the Victorian commitment to the diffusion of science took many forms, as Jim's work has shown us, it left a lasting legacy on the ways in which science is presented and negotiated in the public realm. The twentieth century brought science to the million in ways that authors like Darwin and publishers like Murray could not possibly have dreamt of. The twenty-first brought both new kinds of science and new ways of accessing and disseminating it. But while we still have authors and readers, publishers and reviewers, texts and images, talk and signs circulating through public and private spaces in myriad forms, we still have a cultural economy of public science capable of being understood in Secordian terms.

Jack Morrell
Interactions with Jim

Jim and I first met in the early 1980s when he gave a talk at the University of Manchester about British geology 1820–70. With persuasive enthusiasm he dilated brilliantly on the characteristics of different kinds of practitioners. As his interests overlapped some of mine he asked me to read the typescript of his forthcoming book *Controversy in Victorian Geology: The Cambrian-Silurian Dispute* (1986). I found it illuminating and enviably well written. I then had the opportunity of endorsing it for Jim's publisher who sought my approval to print most of my evaluation on the dust jacket, as follows:

> I enjoyed this book enormously. I was impressed by Secord's command of technical material, which puts him in the highest class as a historian of geology. But I was even more taken by the way he brings out the significance of his material for general history of science and for Victorian cultural and intellectual history. Everybody knows that in the early and mid-Victorian periods English geology was very creative, but very few historians have been able to write about that success as something made intellectually, socially and institutionally. Secord has succeeded in doing this and has therefore in my view written a book of fundamental importance for Victorian cultural and intellectual history.

After thirty-four years this encomium still holds.

In his book, Jim analysed the long-running dispute between Sedgwick and Murchison about the boundary between their two geological systems. The previous year Martin Rudwick had revealed in his door stopper, *The Great Devonian Controversy: The Shaping of Scientific Knowledge among Gentlemanly Specialists*, that even the very notion of a new geological system was forged in the heat of argument which involved not only

intellectual concerns but also other types of interests. These two enduring books gave the *coup de grâce* to naïve realism in the history of geology. They showed conclusively that geological knowledge was socially constructed through argument and debate and shaped from empirical materials gained through fieldwork.

I am happy to turn now to the ways in which Jim helped me greatly with my last two books: *Science, Culture and Politics in Britain, 1750–1870* (1997) and *John Phillips and the Business of Victorian Science* (2005). The first of these originated in a proposal made in 1990, and again in 1993, by a truly formidable trio, viz., Jim, Simon Schaffer, and the late John Pickstone. It was their idea that they would edit a collection of about twenty of my papers and that CUP would enjoy the privilege of publishing them. The proposal was not composed by me but by Jim, who read all my papers, an experience he likened to 'listening to all of Brahms at a sitting.' He produced a provisional table of contents which organised the papers under three headings and throughout avoided chronological ordering. His aim was to produce a thematically coherent collection of eighteen edited essays with an editors' preface. This ambitious project was promoted not by me but by Jim and Simon, who lobbied appropriate editors at CUP and twice submitted a proposal to the Syndics.

Though it was disappointing that CUP rejected the proposal, the efforts of Jim and Simon came to fruition. It dawned on me eventually that an unedited volume of a smaller number of papers might be suitable for Ashgate's Variorum Collected Studies Series so I approached Ashgate with a proposal that depended heavily on Jim's. Ashgate was happy to publish my *Science, Culture and Politics*, which contained fifteen papers in exactly the order which Jim had previously proposed.

For years Jim, Martin, and Hugh Torrens had encouraged me to write an analytical biography of the geologist John Phillips (1800–74). My *Phillips* was greatly indebted to all three of them, especially their publications which I mined for valuable facts, perspectives, insights, and concepts. Additionally, Jim offered with characteristic generosity to read the entire typescript. Meticulous as ever, he made many corrections and with his incisive comments greatly improved its arguments. Crucially he suggested a re-ordering of the opening paragraphs of Chapter 1. I gladly accepted Jim's point that it was essential to introduce to the reader as soon as possible the book's main themes.

These minor forays into the making of my last two books show that even an octogenarian curmudgeon has learned from Jim's influential writings on the history of communication and of publication. More importantly they illustrate what all his colleagues and chums know and appreciate. For many years Jim has been a true scholar

and a true friend. As Murchison was wont to exclaim, *verbum sat*!

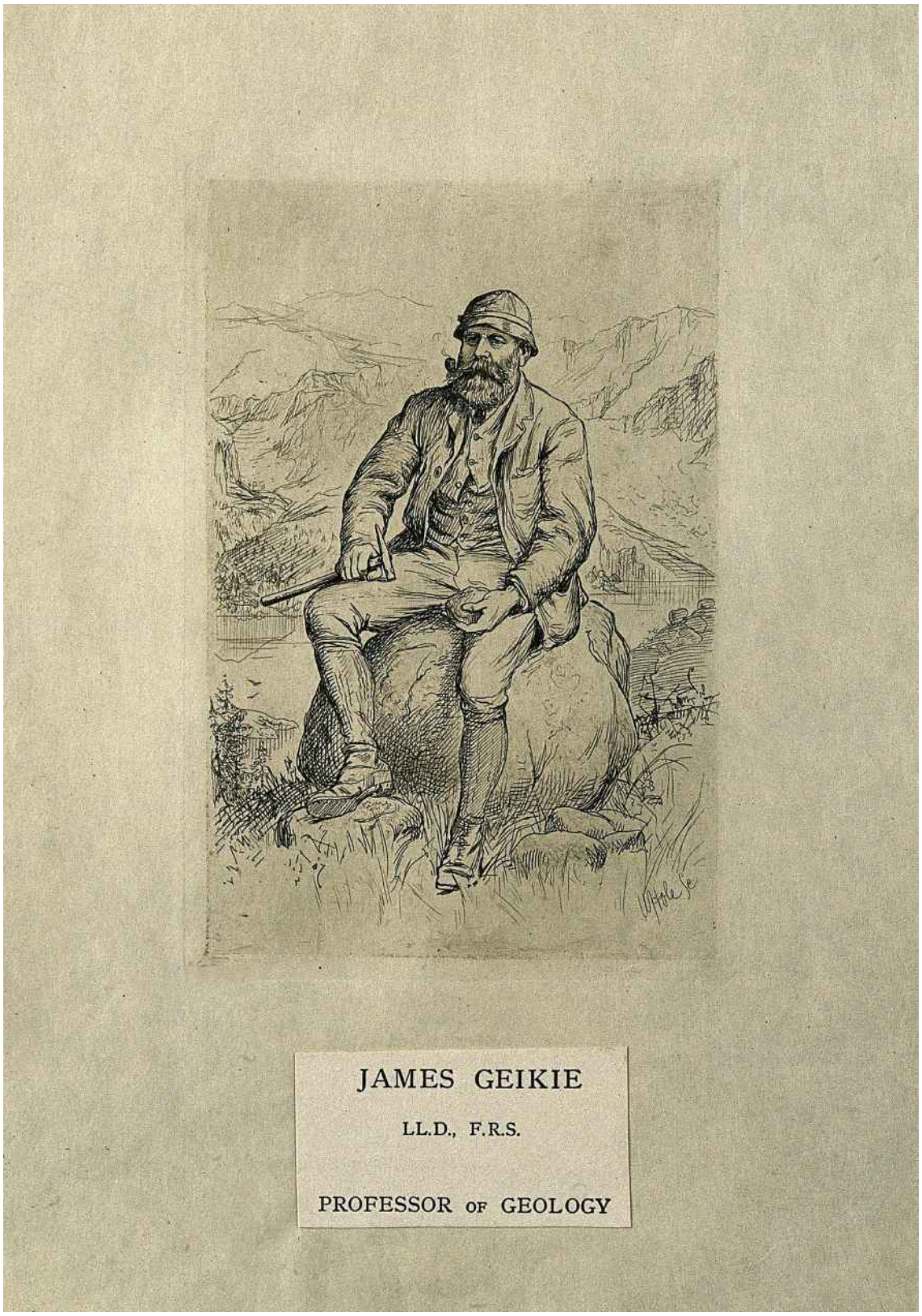


Figure 1. William Hole, James Geike, 1884. Public domain, Wellcome Institute, London.

Janet Browne

If I was clever enough, I would draw a little picture of Jim as a geological enthusiast, perhaps made out of fossils like an Archimboldo painting, perhaps like James Geikie resting on a boulder in the Highlands, or maybe like William Buckland dressed for an exciting glacial expedition (figure 1, facing). These would all be appropriate testimonies to Jim's enthusiasm for the history of geological fieldwork. But probably best of all would be a figure made from books, with legs and arms composed of editions of Lyell's *Elements of Geology*, his body from the magisterial *Principles of Geology*, a Mary Somerville hat, and so forth. This is an agreeable flight of fancy but also draws on a vestigial recollection of Jim once saying that he would have liked to have been a cartoonist. Luckily for us, he turned definitively towards history of science in the 1980s.

I have known Jim from the time he first visited London as a Fulbright scholar. This developed into a wonderful friendship both personal and academical, stretching from Imperial College and UCL to Cambridge, both as a teacher and as Director of the Darwin Correspondence Project. We have worked together on several scholarly projects, all of which had very happy outcomes, a reflection of his skill for making things happen. And I have known and admired Anne for a couple of years longer. I send my fondest wishes to them both. Have a wonderful retirement, Jim!

I have never had a dull conversation with Jim. He always has something relevant, sensible, and stimulating to say. This invitation to contribute to the collection of tributes and recollections is a marvelous opportunity to say something about his work and friendly ability to inspire.

Pleasingly, for a self-identified book historian, Jim has an eager appreciation of sources that are not bound in covers—the historical role of conversations, of field work, of debates in learned societies, public lectures, exhibitions, scrapbooks, electrical experiments, pigeon breeding, life-size sculptures of dinosaurs, and preeminently the

importance of correspondence. More generally, he is sensitive to the fact that print publication skews the historical record towards text and obscures other sorts of knowledge. Of course, one can mostly only get to those other forms of knowledge through written or printed documents. Yet in a remarkable succession of innovative books and research articles he has shown ways to plumb at least some of the world of nineteenth century vernacular knowledge through careful use of the archive and a wide variety of source materials. Others will no doubt speak more fully about *Victorian Sensation*, a book that began as an inquiry into the responses to *Vestiges of the Natural History of Creation* and grew into a pioneering account of how to integrate the public's multiple readings of a text with the mystery and impact of its publication. It won the annual Pfizer Prize of the History of Science Society in 2002. The same understanding of using multiple perspectives to explore the nature of knowledge comes across in his *Controversy in Victorian Geology: The Cambrian-Silurian Dispute* and the more recent volume *Visions of Science*. It's a great gift, resulting in perceptive and multivalent scholarly arguments.

In this endeavor, Jim has progressively come to articulate the concept of the 'circulation of knowledge' that now identifies his approach in the professional field. I surely won't be the only person writing about this. I'm sure that Jim feels that this circulatory methodology has always been a significant theme in his research—and retrospectively we can probably construct a teleology from the earliest of his articles--but I can't help hoping that it was consolidated and made real through his connection with the Darwin Correspondence. To engage with materials such as letters that disseminate, evaluate, and authenticate different points of view seems to me to lie at the very heart of our historical enterprise and represents the interface between the construction and emergence of knowledge with its circulation and validation (or not). Darwin's huge body of correspondence exhibits these features in ample variety. As is now well known—so well known that it might even generate a yawn—Darwin pursued information along networks that ranged across social station, gender, occupation, and geographical location, networks that doubled back upon themselves, diverged and frequently came to dead ends or pushed off in other directions only for Darwin to return to a set of issues or a set of correspondents years later with the same or related points in mind. In these letters we can see —Jim can see—nineteenth century natural history knowledge in motion, vividly gathering authenticity, or losing it, as it moved from person to person in all their social, geopolitical, and cultural assortment. To propose the circulation of knowledge as a leading interpretative theme in our field is entirely

logical, given Jim's research focus, but also a dazzling rethink of the social structure of science that gives historical status to forms of knowledge previously overlooked or underrated.

The Darwin Correspondence team has changed a lot over the 45 years since its foundation by Fred Burkhardt and Anne Schlabach Burkhardt (with Sydney Smith, a zoologist in the University of Cambridge). Anne and Fred set out to locate all letters written by Darwin, although Fred would joke that he began merely with the intention of producing a Huxley-Darwin correspondence that would supersede the old *Lives and Letters*. Fred was by training a philosopher and Thomas Henry Huxley was a special figure to him, as was William James. More than 15,000 letters and 2000 correspondents later, the Darwin project has become one of the milestone editions not just in history of science but also an example of the very best interdisciplinary international scholarship. Fred and Anne would visit Cambridge every summer from Vermont and take up residence in Robinson College. They met Jim through Anne, who was an editor on the project. Every summer, often over friendly drinks in his favorite country pub, Fred would press Jim to become the director in his footsteps, recognizing Jim's expertise in nineteenth-century history and managerial potential, and also the great advantage of his being an American citizen resident in the UK who could apply to the many foundations that Fred lined up to support the initiative. Fred was thrilled when Jim accepted. It was an outstanding decision, upheld in every day's achievements over many years now. The project has filled out under Jim in ways that would have been inconceivable in the early years, with a website packed with useful interpretative aids, search mechanisms that were big headaches to set up, the print edition producing a volume more or less every year, funding in hand to complete, and honors galore. The computing underside has also always been an amazingly innovative enterprise and Jim (with his colleagues) has steered that into becoming a model organism for digital humanities as well as a recognized national asset. On a lesser level altogether, but fun to bring online, he and I created a small offshoot office for the project at Harvard University, funded by some jointly held awards, and I would send individual students over to Cambridge for a few months for a proper Darwin Correspondence training. These young scholars were amazed not only by the complexity of so many simultaneous operations but also by the friendly, orderly teamwork, and (it has to be said) the now-traditional convivial moments in the tearoom at CUL. Jim was the kindest and most supportive mentor to them that one can imagine. He has put his many talents, negotiating skills, endless time, and total dedication into bringing this

project to completion. I am full of admiration.

There is plenty more. We jointly supported an application through CRASSH to facilitate the online Complete Writings of Charles Darwin. Jim kindly brought me over for two months during the Cambridge Darwin festival in 2009 and made it possible for me to stay at Christ's College, a treat of the highest order. We have occasionally exchanged students, Cambridge to Cambridge, and are always mutually impressed by the distinguished quality of their research and delightful personalities. We have many natural history friends in common and once jointly published, with Hugh Torrens, an unfinished manuscript about the Geological Society of London by John Thackray, *To See the Fellows Fight*. Every interaction was a pleasure. I love visiting Cambridge and seeing him and Anne. He's made a huge impact on my life, both personal and professional, and I salute him very warmly indeed on this happy occasion!

Katie Zimmerman

Liba Taub

Behind the Scenes at the Whipple Museum: Jim Secord as 'Unofficial' Curator

What is the role of the museum curator? Often working behind the scenes, unseen by the public, curators largely define what we hold and display in museums. All museum holdings reflect the interests and expertise of their curators; this often determines what is researched and studied. This is the case at the Whipple Museum of the History of Science, but here the curatorial influence has not been limited only to those few who have held the title. Part of the singular success of the Whipple as a leading teaching and research museum is due to its home within the Department of History and Philosophy of Science, giving the small number of museum staff access to the knowledge and expertise of our colleagues in the wider department. Over several decades, Jim Secord has contributed to the work of the Museum in numerous ways, and has certainly had significant curatorial influence. Now is a perfect moment to move from behind the scenes to 'front of house' and put his curatorial contributions on display.

Jim's published work is very well known and much admired; a good deal of it has focused on historical sources in print, including but not restricted to books. He is highly regarded for his expert knowledge of printing techniques and printed material, including newspaper articles. Much of his work has involved the close reading of visual images conveyed in print. He has repeatedly demonstrated how the study of visual material can open up new ways of understanding knowledge, and knowledge transfer, as in his 'Scrapbook Science: Composite Caricatures in Late Georgian England.' There, he also reported on 'the view from the print shop', giving a vivid sense of how much time he himself has dedicated to scrutinising prints in shop windows, and other places.

The time has come to reveal how much the Whipple Museum has benefited over many years—behind the scenes—from Jim's avid scanning of shop windows (virtual

and otherwise) on behalf of our collections. For decades, Jim has informally advised us on acquisitions, particularly of what is referred to in museum-speak as 'flat material'. Unsurprisingly, his advice has tended to focus on the acquisition of certain types of, but not only, print material, particularly what is termed even in the museum context as 'ephemera'. Of course, collecting and preserving those often elusive bits of historical source material is exactly what museums are for. Jim's urging of the collection and preservation of what otherwise might be overlooked and thrown away has been key to the development of certain areas of the Whipple's holdings.

In museum collections, including that of the Whipple, ephemera are normally held within print and/or manuscript holdings, and can include trade literature, such as the example of the business card of Professor Louis Agassiz (1807–1873), with his portrait (Whipple accession number: Wh. 5763). Agassiz' printed portrait is one of several dozen acquired by the Whipple with Jim's help, portraying various scientists, practitioners and educators.

Given his own early focus on geology, Jim's knowledge of the geological has allowed the Whipple to develop a particular strength in this area. With his help, a number of geologists, palaeontologists and mineralogists are represented by portraits in the Whipple's holdings, including a ca. 1723 print of Johann Jacob Scheuchzer (1672–1733; Wh. 5931), by Melchior Füsslinus (original artist) and Jos. Nutting (engraver); a mid-nineteenth-century French engraving of Abraham Theophile (Gottlob) Werner (1749–1817; Wh. 6039), drawn after the original portrait by Vogel, and engraved by Ambrose Tardieu, and a late nineteenth-century print of Angelo Sismonda (1807–1878; Wh.5921). The Whipple's print of Sismonda was previously in the library of the Belgian geologist Jean Baptiste Julien d'Omalius d'Halloy (1783–1875). Apparently not as well known in England as he had been in Europe, Sismonda was a pioneer of geological mapping in the Alps of Savoy and the Piedmont. Several of the geological maps in the Whipple collection are also due to Jim's curatorial eye, including an 1849 map showing 'THE GEOLOGICAL STRUCTURE OF THE GLOBE ACCORDING TO AMI BOUE From the Large Chart Presented to the Reunion at Gratz 22d. Septr.1844. BY A.K. JOHNSTON F.R.G.S.with Dr. Boue's Corrections & additions to Septr. 1846' (Wh. 5786), by Andrew Keith Johnston (engraver) and William Blackwood & Sons (publisher). Subsequently, again through Jim's help, a late nineteenth-century print portrait of Ami Boué (1794–1881) by the lithographer Thierry Frères (Wh. 5916) was acquired.

Without Jim's guidance, the Whipple certainly would not have such an excellent

compilation of depictions of geologists. And, he did not limit his advice to these, pointing us in the direction of many other figures, helping us build a collection that looks beyond the 'great men of science'. Our acquisition of Mary Somerville's portrait (Wh. 6035) was also prompted by Jim, who was himself responsible for the Introductions and bibliographies to the nine-volume *Collected Works of Mary Somerville* (figure 1, below).

Portraits are paintings, drawings, photographs, or engravings of a person, often focusing only the face or head and shoulders. However, Jim's interest in understanding people is not limited to studying their faces, or even their whole head. He brought to our attention the importance of 'Toe-tology' when he suggested the purchase of a print spoofing the theory and practice of phrenology, a bit of ephemera printed as an April fool's joke, possibly in Scotland in the mid-nineteenth century. This print advertises a lecture course on 'TOE-TOLOGY versus PHRENOLOGY, to be delivered at the 'Foot' of Arthur's Seat on the 1st of April, to prove that there is more expression in the FOOT, than in the HEAD' (Wh. 6033, figure 2, below).

Jim's suggestions for acquisitions give important insights into how he spent his own time in front of the print shop window. His enthusiastic sharing of his valuable insights and advice regarding the acquisition of print material reflects his dedicated commitment to supporting the Museum and the Library. We have greatly benefited from his expertise regarding historical sources in print, especially those relating to the earth and life sciences, particularly from the Victorian era. And Jim's sense of fun, conveyed in a number of acquisitions suggested by him, is an important feature of his, and our, collecting.

With all of this in mind, when the Whipple created a gallery installation evoking a domestic space of a nineteenth-century family keenly interested in science, we turned to both Jim and Anne Secord for suggestions and advice. Their input was invaluable, and years later the space still attracts visitors of all ages. Museum staff always enjoy seeing grown-ups playing with the reproductions of Victorian scientific toys. Accordingly, when celebrating the opening of our Globes gallery in the space adjacent to the Victorian Parlour, it seemed especially appropriate to invite Jim to give a talk based on his essay 'Newton in the Nursery: Tom Telescope and the Philosophy of Tops and Balls, 1761–1838'.

Jim's interest in physical 'things' as well as flat material is evident in the very first object about which we took his advice: a boxed set of objects for children to make their own optical instruments, along with the accompanying ephemeral instruction booklet. Instruction booklets and manuals are notoriously ephemeral and the set itself might well have been judged so too, as the box itself—not in pristine condition—was cardboard with printed labels. At Jim's suggestion the Whipple acquired this set, manufactured by Construments Ltd. in the first half of the twentieth century (figure 3, following).

The Whipple is always keen to acquire objects and other material that have an excellent chance of use by students for research projects; the Whipple has prided itself on the many MPhil essays based on our holdings. Jim pointed Melanie Keene towards our Construments kit. Her outstanding MPhil essay eventually became an article in *Isis*, and a photograph of Wh. 4565 featured on the cover of the issue. What might have been regarded as a rather insignificant (i.e., not costly) purchase of a somewhat ephemeral item turned out to be one of the early successes of the approach to research and teaching that has characterised the Whipple Museum over the past twenty-five years. Jim played a crucial role in catalysing this.

Given Jim's long-running behind-the-scenes influence, it is unsurprising that many

of the Whipple's acquisitions that derive from his own collecting predilections have proven exceptionally fruitful for research. It is now time to acknowledge and celebrate Jim Secord's hidden career as a behind-the-scenes, and very influential, curator. In particular, that the Whipple Museum has such an excellent collection of prints, ephemera and portraits may rightly be credited to him.

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Martin Rudwick

Making Sense of Lyell's *Principles*

My earliest memory of Jim is of walking just behind him around the garden of what had once been Charles Lyell's family home in Hampshire. As we did so, we somehow disturbed a nest of hornets in a nearby hedge; one of them chose to demonstrate on me their collective indignation, and I had to be whisked off to the nearest hospital, to be given an antidote. But the incident didn't spoil my enjoyment of this excursion, which was a relaxing interlude in the conference that marked the centenary of Lyell's death. I think it was this international event, in London in 1975, that stimulated the modern revival of historical interest in Lyell as more than just a John-the-Baptist to Darwin-the-Messiah: a revival in which Jim's work has had a distinguished place. The history of Jim's and my scholarly companionship goes back a long way, and Lyell has often been our historical companion.

Years after the conference, I wrote an introductory essay for Chicago's facsimile reprint of the first edition of Lyell's *Principles of Geology*, in which I tried to summarise the line of argument that I saw running all through its three bulky volumes. Several years after that, Jim published an excellent abridgement of Lyell's great work as a Penguin Classic; this made it accessible to a far wider range of modern readers, and he introduced it with a fine essay describing its place in British intellectual, cultural and social history. A decade later, I re-presented my analysis of Lyell's work by embedding it in *Worlds before Adam*, a narrative that describes how early nineteenth-century geologists all around Europe first reconstructed the pre-human history of the earth and its life. More recently, Jim has revised his Lyell essay for *Visions of Science*, his outstandingly fine set of studies of early Victorian intellectual worthies, among whom Lyell was of course worthily one. Re-reading both these books recently, I was struck by the contrast in our interpretations of Lyell's greatest work, which I think is important

enough in its wider implications to be worth a brief comment here, as a part of our celebration of Jim's long and impressive career.

Figure 1. Sir Henry De la Beche, 1830. Public domain, Wellcome Institute, London.

The contrast is encapsulated in our use of one specific image, entertainingly rich in implicit meanings, which we both deploy to illustrate our wider interpretation of Lyell's intentions. The image is a caricature rather in the style of Gillray, drawn by Henry De la Beche (an English geologist, despite his Frenchified family name) shortly after the first volume of *Principles* was published. Lyell is parodied as Professor Ichthyosaurus; his students are other reptiles likewise known in reality only as fossils; and he is demonstrating a fossil human skull. For the scene is not of the distant past (later named Jurassic) but of the lively return of the reptiles in an imagined post-human future. De la Beche's intended meaning of the caricature is clear, not least in the light of his preliminary sketches for it, which luckily have survived. He was making fun of Lyell's conjecture – published in *Principles* – that the earth might conceivably return in the distant *future* to something like its physical condition in the distant past, sustaining

something like the same kinds of living organisms: in this case a second 'Age of Reptiles'. I interpreted the caricature as illustrating how Lyell was taken to be depicting the earth's history, past and future, as *cyclical* in character – he himself used that word – or broadly 'steady-state', rather than displaying the *unidirectional* history that almost all other geologists, in one way or another, claimed to see in the record of the rocks: a history stretching from an unimaginably remote origin of life all the way to the arrival of the human species in the geologically recent past.

In Jim's view, on the other hand, Lyell was not advocating either model, because he believed the record of the deep past was too fragmentary to allow a history of any kind to be reconstructed. Instead, Jim argues, Lyell's primary goal in the *Principles* was simply to demonstrate that everything recorded in the rocks could and should be explained 'by reference to causes now in operation' (as he put it in the book's subtitle); his objective was to establish a sound method for geology, not to propose any high-level theory about the earth.

I argued on the contrary that Lyell's main objective was neither methodological nor grandly theoretical (or 'cosmological'). Proposing those as alternatives overlooks or marginalises Lyell's explicit goal of reconstructing the earth's own *history* with as much precision as the evidence allowed. This he set out in the climactic final volume of *Principles*: his great inventory of 'modern causes' in the first two volumes was, in his own words, just the 'alphabet and grammar' of nature's geological 'language', which needed to be learnt and could then be used like Champollion's hieroglyphs to decipher the deep past. Metaphors and analogies drawn from human historiography were pervasive in *Principles*; it was not for nothing that Lyell chose an eloquent quote from Niebuhr's *Römische Geschichte* as the epigraph for his own massive work. Lyell expounded his history in retrospective order – penetrating from the known present back into the increasing obscurity of the deeper past – but this was simply adapted from the best practice of his geological contemporaries, and didn't detract from his own grand strategy of reconstructing the *history* of the earth.

Standing back, as it were, from Jim's and my own detailed textual analyses, it now seems to me that the source of our differences in interpreting the *Principles* boil down essentially – and importantly – to a difference in emphasis about Lyell's intended readership. Jim refers to his own work as contributing to 'the public history of science', and he focusses impressively on the questions about the new science of geology that most engaged the attention of the 'intelligent reading public' of Lyell's time: not least the issues swirling around the proper interpretation of Genesis. He does also deal with

the reception of Lyell's work among other geologists, as exemplified by De la Beche's caricature; but in practice he treats this as less directly relevant for his purposes, and he implies that it was mostly confined to their correspondence and other relatively private media. My treatment of Lyell, on the other hand, is focussed on the level of debate illustrated indeed by his own and his colleagues' notebooks and letters but also by their published books and articles: by the papers they read at the Geological Society in London, the Société Géologique in Paris, and other such gatherings around Europe (and a few outside it), and those they published in the burgeoning range of scientific periodicals in many European languages (several of which Lyell was well able to read). I am of course aware of the wider societal implications of Lyell's work, but I've chosen to treat them as secondary to its meaning for his knowledgeable scientific readers.

Lyell himself understood the importance, for his wider project, of both the 'general reader' and 'men of science' (to use his own terms for them). At the request of one of the former he inserted a glossary of technical geological terms in the final volume of *Principles*, but throughout the work he presented his evidence with all the geological detail expected by the latter. I'm sure there is ample room in the Big Tent of historians of science not only for those who focus their attention on the macro-social implications of past scientific work, but also for those who try to disentangle how claims to scientific knowledge are shaped by the micro-social processes of expert debate. Long may they both continue to flourish!

Meira Gold

The Florence Connection

> Florence is of itself so attaching — so soothing in its loveliness,
> and yet not the dead feeling of a country town in England —
> Life everywhere, in the sun, in the river, in the hills with their
> thousand villas — in the living present — in the living past.[1]
>
> Susan Horner, 1861

I began writing this piece in late May 2020 from Florence, Italy, as the city emerged from unprecedented lockdown. The streets were remarkably quiet, void of tourists and study abroad students. The city was both eerie and beautiful. The sudden quiet that befell the city this spring allowed me to contemplate some who have passed through this place before me, leaving something of themselves behind.

Several tombstones in the 'English Cemetery' in Florence are a testament to the community of Victorian intellectuals who once resided here. Most active in the middle decades of the nineteenth century, the cemetery became the resting places for many notable Anglo-Florentines at the height of Italian Unification.[2] Among them were famous literary figures Walter Savage Landor, Elizabeth Barret Browning, Fanny and Theodosia Trollope, Arthur Hugh Clough, and numerous artists. The physician William Somerville is also buried here, not far from his wife, the eminent science writer Mary Somerville, who is herself buried in the Protestant Cemetery of Naples. Another grave

1. Diary of Susan Horner, 10 December 1861, ff. 44. British Institute of Florence.

2. For more about the cemetery see Julia Bolton Holloway, '"Thunders of White Silence": The Protestant Cemetery of Florence, Called "The English Cemetery"', 2019, http://www.florin.ms/cemetery.html; Jacqueline Banerjee, 'The English Cemetery in Florence and the Anglo-Florentine Community', *The Victorian Web*, 24 May 2011, http://www.victorianweb.org/authors/ebb/cemetery.html.

belongs to Anne Susanna Horner, wife of the reputable geologist and social reformer Leonard Horner (figure 1, below). Her tombstone contains a medallion honouring the Horners' fifty-six-year marriage, and references to their six erudite daughters, whom Charles Darwin fondly nicknamed 'the Horneritas.'[3] I took particular interest in the Horners' connection with my temporary abode because, at Jim's suggestion, I previously researched Leonard's geo-archaeological investigations in Egypt in the 1850s.[4]

Figure 1. Grave of Anne Susanna Horner (1786–1862) in the "English Cemetery" in Florence

The Horners were a Scottish Quaker family whose residence in Bloomsbury, by mid-century, became an elite social space for scientific discussion and debate.[5] Leonard was a social reformer, educationalist, and geologist; Anne maintained a wide correspondence network. Their eldest daughter Mary married geologist Charles Lyell; Katherine married his brother Henry Lyell; Frances married botanist Charles Bunbury; and Leonora married German historian George Heinrich Pertz. The two youngest

3. James A. Secord, *Victorian Sensation: The Extraordinary Publication, Reception, and Secret Authorship of Vestiges of the Natural History of Creation* (Chicago: University of Chicago Press, 2000), p. 241.

4. Meira Gold, 'Ancient Egypt and the Geological Antiquity of Man, 1847–1863', *History of Science* 57 (2019): 194–230.

5. Secord, *Victorian Sensation*, p. 411.

daughters Susan and Joanna remained unwed. The six daughters were well-educated, fluent in multiple languages, and accomplished writers. All but Mary published in their own lifetime as authors, editors, or translators.[6] The Horners moreover had strong affinities with Italy. Leonard's brother Francis, a Whig politician and co-founder of the *Edinburgh Review*, was buried in Pisa. Susan had previously resided in Florence with the Bunburys in 1848, and subsequently translated numerous works of Italian poetry and history. The entire family was passionate and informed about Italian politics.

The autumn of 1861 commenced a landmark year for the Horner family. Doctors ordered Anne to a warmer climate for her health and she, alongside Leonard, Susan, and Joanna, ventured to Florence for an eight-month sojourn (figure 2, following).[7] They travelled with the ailing poet Arthur Hugh Clough, also going to Italy for his health, and his wife Blanche. The Horners stopped at La Spezzia, the temporary residence of Mary Somerville and her daughters Martha and Mary. There they found the 81-year-old vigorously finishing the newest edition of her *Physical Geography* (originally published 1848). He was charmed at her writing habits: 'We saw the nice little old lady in her working dress, with her bed covered with books and manuscripts.'[8] Somerville and Leonard Horner exchanged views on the antiquity of man, about which he had recently given a controversial presidential address to the Geological Society in London. In Pisa,

6. While Mary Lyell did not publish in her name, it is well-known that she studied conchology and collaborated with her husband during geological fieldwork, cataloguing objects, discussing and editing his publications, and translating his correspondence letters. The other Horner sisters' publications include: *Count Cesare Balbo, The Life and Times of Dante Alighieri*, trans. Frances J. Bunbury, 2 vols (London: Richard Bentley, 1852); Frances J. Bunbury and Katharine M. Lyell, eds., *Life, Letter and Journals of Sir Charles J.F. Bunbury*, 3 vols (London: Women's Printing Society, 1894); Katharine M. Lyell, *A Geographical Handbook of All the Known Ferns* (London: John Murray, 1870); Katharine M. Lyell, ed., *Life, Letters, and Journals of Sir Charles Lyell*, 2 vols (London: John Murray, 1881); Katharine M. Lyell, ed., *Memoir of Leonard Horner*, 2 vols (London: Women's Printing Society, 1890); Karl Richard *Lepsius, Letters from Egypt, Ethiopia, and the Peninsula of Sinai*, trans. Joanna B Horner and Leonora Horner (London: H. G. Bohn, 1853); Susan Horner and Joanna B Horner, *Walks in Florence and Its Environs*, 2 vols (London: Smith, Elder and Co., 1884); Pietro Colletta, *History of the Kingdom of Naples, 1734–1825*, trans. Susan M. Horner, 2 vols (Edinburgh: T. Constable and Co., 1858); Susan Horner, *A Century of Despotism in Naples and Sicily* (Edinburgh: Edmonston and Douglas, 1860); Susan Horner, *The Tuscan Poet G. Giusti and His Times* (London: MacMillan and Co., 1864).

7. Much gratitude to Alyson Price, former archivist at the Institute, who provided diary transcripts, digital images, and information about the Horners in Florence.

8. Leonard Horner, *Memoir of Leonard Horner*, ed. Katharine M. Lyell, vol. 2 (London, 1890), pp. 315–16; Jim has written extensively on Somerville's life and work, see for example James A. Secord, *Visions of Science: Books and Readers at the Dawn of the Victorian Age* (Oxford: Oxford University Press, 2014), chapter 4; James A. Secord, 'Mary Somerville's Vision of Science', *Physics Today* 71 (2018): 46–52.

Leonard received a tour of the Natural History Museum and a lecture about Tuscan geology from Gaetano Savi, head of the Pisan Geological School and co-founder of the Italian Geological Survey. He was first to see a new geological map of the region commissioned for the National Exposition in Florence that Autumn.[9]

During their months in Florence, the family mingled within scientific, political, and literary circles. Their social calendar was filled with picnics in the Tuscan hillsides, walks to private villas, and collection tours from Italian antiquarians, naturalists, and scholars. They visited with British expats and travellers. The family lodged at Casa Fabbiani across from the Pitti Palace and next door to what was once the Brownings' residence, where Elisabeth had scripted her monumental poem *Casa GuidiWindows*. The Cloughs stayed one floor above. Leonard largely confined himself to learning Italian and the local geology. He passed much of his time at the *Museo d'Istoria Naturale* where he met with the museum's director Filippo Parlatore (described by Joseph Hooker as the 'Nestor of Tuscan Botanists') and Parlatore's assistant, the botanist Teodoro Caruel.[10] Leonard also conversed with the Marchese Torrigiani about educational reform in Italy, and the historian Pasquale Villari, whose lectures at the Scuola Superiore he and Joanna often attended.

Susan and Joanna kept very busy while their mother recuperated. Susan's diary offers a particular window into Victorian women's networks in Italy. She corresponded extensively with her sisters, Mary and Marianne Somerville, Marianne Galton, and Blanche Clough. They were visited by Cecilia Siddons (wife of phrenologist George Combe), and spent significant time with Selina Bracebridge, artist, travel writer, and assistant to Florence Nightingale. The sisters occupied most their time pursuing their own creative and intellectual projects. Joanna traced a winged ancient Egyptian motif for Clough's tombstone.[11] Along with Parlatore's wife and sister, Susan and Joanna attended the professor's lectures at the Natural History Museum, where 'many ladies attend…as much educated as English ladies.'[12] Joanna, who shared her father's geological interests, visited palaeontologist Igino Cochi while he was studying marine fossils. As Susan noted, the two sisters often 'trudged under umbrellas to the Nat. History Museum, and she looked at fossils and I at the specimens of precious stones.'[13] Susan frequently discussed Etruscan antiquities with Arcangelo Michele Migliarini, artist

9. Horner, *Memoir of Leonard Horner*, 2:318–19.
10. *Ibid*., 2:321.
11. Diary of Susan Horner, 8 December 1861, f. 43, British Institute in Florence.
12. Diary of Susan Horner, 24 December 1861, f. 48, British Institute in Florence.
13. Diary of Susan Horner, 16 November 1861, f. 36v, British Institute in Florence.

and museum curator at the Uffizi. Countless days were spent studying, documenting, drawing, and cataloguing the gems in the museum's collection.[14]

In May 1862, Anne Horner's health took a turn for the worst. Susan's diary contains a photograph of the house where the family 'spent eight happy months ending in our greatest sorrow – and leaving a sweet but sad memory.' Mary and Charles Lyell joined their family in Florence to say goodbye before they all returned together to Britain. Susan and Joanna's residency informed their popular two-volume guidebook *Walks in Florence and its Environs* (1884). Scattered with quotes from Dante's *Paradiso* and the history of the city's monuments and architecture, it remains a key insight into Victorian life in the city.

❦

Throughout my first months in Florence, I struggled to prepare my doctoral thesis for submission away from Cambridge, while simultaneously starting my first postdoctoral position at the European University Institute. I met virtually with Jim every week. He read drafts characteristically quickly and offered critical feedback, leaving me each time with pages of precious scribbled notes. He prodded whether I had left my thesis-writing bubble and explored the historic city centre. 'Have you walked through the Boboli Gardens?' he asked nostalgically. 'Visit the Uffizi soon!' he urged, and 'let me know when you've seen the wax models at La Specola.' Having spent an extended honeymoon here with Anne, Jim was acquainted with all extraordinary sights the City of Lillies has to offer (I am told they hope to return for a future anniversary!). As I prepare to leave for my next position in Toronto, I am faced with the bittersweet feeling that I am leaving the last place where Jim enthusiastically, skilfully, and patiently coached me through the successful completion of my PhD. Yet I am comforted by Leonard Horner's words as they echo in my head: 'Florence will be now connected with us by an indissoluble link.'[15]

14. Hannah Sikstrom, 'Susan Horner's Journeys, Journals and Gems: The Unpublished Travel Accounts of an Intellectual Woman in Italy', *Women's Writing* 24 (2017): 227–47.

15. Horner, *Memoir of Leonard Horner*, 2:352.

Patricia Fara

There once was an icthyosaurus
Who roamed the planet before us.
I'm told he's called Jim
And here's a short hymn
So we all sing his praises in chorus.
His book spent many years in gestation

But naturally caused a Sensation.
Its insightful messages
On the impact of Vestiges
Resounded through all of Creation.

We're all very fond of dear Jim
Who often went out on a limb
To set all before us,
But never once bore us,
And so we pay tribute to him.

Figure 1. Sir Henry De la Beche, 1830. Public domain, Wellcome Institute, London.

Ralph O'Connor
The Lost Spasmodist: An Appreciation

As a literary scholar, Jim Secord is a past master in the art of recuperating neglected nineteenth-century texts, bringing them to life by weaving them back into their vanished webs of historical and literary context. He has a rare gift for diving into the most superficially unpromising material and pulling out gleaming cultural-historical nuggets. Beyond this, one enduring side-effect of studying for a PhD with Jim and the late Anne Barton was learning the practical art of literary enjoyment, applied to some of the obscurer corners of Romantic and Victorian literature. This art was inculcated less in formal supervisions than in casual conversation. For sheer reading pleasure I shall be forever grateful to him for introducing me to unheard-of and unclassifiable works like Robert Hunt's visionary *Bildungsroman Panthea* (1849) and John Mill's Hindu dream-vision *The Fossil Spirit* (1854). My copy of the delightful King Coal's *Levee* (1820), John Scafe's mildly satirical mini-epic about mineralogy – Erasmus Darwin surfing the strata – is a special favourite and, like Sadiah Qureshi's bowl, a prized wedding present from the Secords. Its heroic couplets, buttonholing capital letters and ubiquitous italics may not be to everyone's taste, but it has an infectious energy and wit which makes it, too, a work to enjoy, not just to analyse.

Some poetry is so execrable that it gives its own pleasure. The dire strains of William McGonagall, poet and tragedian of Dundee, are the best-known example – who can resist his clomping disaster-narratives? – but his many *Poetic Gems* are still in print largely because he was a living legend in his own day. When he performed, crowds flocked to hear and jeer. No such claim to fame redeems my subject, Thomas Hawkins (1810–1889), the McGonagall of the West Country. Any celebrity he can claim rests

on the importance of the fossil collection he amassed in the 1830s.[1] By the early 1840s he had moved on, with ambitions to become an epic poet. The two works I wish to celebrate in this short piece represent Hawkins's attempt to retell the story of Milton's *Paradise Lost* and *Paradise Regained* – the salvation history of the cosmos – in nine books of blank verse. His first attempt was *The Wars of Jehovah in Heaven, Earth, and Hell*, published in 1844 by Francis Baisler with lithographs by John Martin. In 1853 a heavily revised version was privately and more cheaply published by Hawkins himself as *The Christiad* (1853).

In both these works, the 'hyper-Miltonic school' of cosmic catastrophe-narrative can be seen overlapping with the explorations of emotional highs and lows carried out by the 'Spasmodic School' (to which Jim Secord himself introduced me twenty years ago).[2] Hawkins's verse is every bit as bad as McGonagall's, without the Dundonian's virtue of concision. It is deservedly absent from all literary histories, save that of the intrepid Herbert Tucker.[3] Jim is one of only a handful of people alive today likely to have read either of these poems in full, so I offer the following sketch to remind him of what retirement now gives him time to revisit, and to show others what they have been missing.

Hawkins had exalted aims. His verse would surpass the work of Dante and Milton in sublime horror: 'The hell they pictured were to ours a heaven'.[4] Even if his contemporaries were unimpressed, Hawkins knew that posterity would vindicate him:

> On this imperishable page transcribed
> By an elaborate fancy, time shall make
> The master-piece of painting more divine.[5]

Along with numerous neologisms, Hawkins aimed to outdo *Paradise Lost* in particular

1. Michael A. Taylor, 'Hawkins, Thomas (1810–1889)', in *Oxford Dictionary of National Biography*, ed. by H.C.G. Matthew (Oxford: Oxford University Press, 2004).

2. On these two movements, see Herbert Tucker, *Epic: Britain's Heroic Muse 1790–1810* (Oxford: Oxford University Press, 2008).

3. *Ibid.*, pp. 323, 357–8. Hawkins's epics are, however, sometimes scoured for references to Hawkins's fossil interests: see M.A. Taylor and R.D. Clark, 'Ichthyosaurs from the Lower Lias (Lower Jurassic) of Banwell, Somerset', *Geoscience in South-West England*, 14 (2016), 59–71, p. 66. I am grateful to Michael A. Taylor for sending me a copy, and for much fruitful discussion of Hawkins over the past two decades.

4. Thomas Hawkins, *The Christiad* (London: Hawkins, 1853), p. 429; similarly in Thomas Hawkins, *The Wars of Jehovah in Heaven, Earth, and Hell* (London: Baisler, 1844), p. 430.

5. Hawkins, *Christiad*, p. 42; Hawkins, *Wars*, p. 57.

by filling in the details it lacked concerning monsters and superheroic combat:

> Out of their streaming arteries and veins
> Various colour'd slime on him they spend
> Despitefully; O swounding! who could bear
> The spittle of such things?[6]

The unconscious art of extracting bathos from a sublime conception was common to many of the hyper-Miltonic and Spasmodic poets, but Hawkins had a distinctive way of doing this. The Burkean sublime required obscurity: awestruck hints of vastness and darkness leave the reader's imagination to fill the void. Hawkins left nothing to imagination. Always fascinated by the physicality of the monsters he contemplated, whether fossil or theological, he filled those sublime gaps with anatomical details of his own invention, even when describing allegorical beings. Bodily fluids and other sticky substances play an important part, for here, as in some twentieth-century pulp fiction, disgust was the royal road to the cosmic sublime. It may also be that Hawkins found the portrayal of bodily spasms a convenient means of amplifying the Spasmodics' repertoire of emotional reaction. Sometimes both kinds of spasm coincide, as in the death of Chaos:

> The dread extremity spasmodic comes
> With grinding teeth, clench'd fists, sharp, cramp'd up limbs,
> Froth at the mouth, glazed eyes, and such dire looks
> As made the day opacous turn or seem.[7]

A typical example of Hawkins's approach is the encounter between Lucifer and Chaos in book 1 of both works. Unlike Milton's crepuscular, barely visible apparition, Hawkins's Chaos sports a range of misshapen body-parts 'with armlets, leglets, dangling down'.[8] He bursts onto the scene at Lucifer's noisy summons ('Three times he stamping stamped') and, unlike Milton's barely audible Anarch, makes even more noise himself:

6. Hawkins, *Christiad*, pp. 165–6; compare Hawkins, *Wars*, p. 186.
7. Hawkins, *Christiad*, p. 213.
8. Hawkins, *Christiad*, p. 29; compare Hawkins, *Wars*, p. 41.

It had no voice, but, voculative, scream'd,
And screech'd, and scream'd again until they saw,
Or thought they saw, nine hundred heads or more,
(Orthus had only two,) continually
At war with one another ....[9]

There follows a game of cosmic catch-me-if-you-can, in which Chaos is caught. His emotions find expression in Hawkins's familiar manner:

His mouths and nostrils grow more monstrous wide,
His countenances change deathful in hue,
His shanks puff out enormously abroad,
Black poison squirting out from all their pores ....[10]

Lucifer seizes his advantage and attempts to hit Chaos where it hurts. Here, the horror inheres in the shocking *absence* of the expected squishy substance:

where his brains
Had been had he own'd any, through and through
Lucifer sent his hand, another going
Down on the hollow vertex of his foe ....

The earlier version of this passage in *The Wars of Jehovah* continues 'so, 'twas smashed / In, altogether in', but it is not clear what has been smashed in.[11] Chaos is unharmed, and next traps Lucifer within his own ever-changing form. Thus encumbered, Chaos goes on to enjoy a brief but passionate liaison with Night, personified as female, with Lucifer completing the curious *ménage à trois*. Pregnancy and birth, producing the fully-grown 'Undying Worm', are the immediate result:

Chaos, with breath full brief and jerk of joy,
To her convulsed embraces covering rush'd,
And Lucifer, perforce in him contain'd:
The two she bore, but, with an instant shiver,

9. Hawkins, *Christiad*, p. 30; compare Hawkins, *Wars*, p. 42.
10. Hawkins, *Christiad*, p. 36.
11. Hawkins, *Wars*, p. 48.

> Her darkling eyeballs starting from the socks,
> Thereat her contradicting form recoil'd
> Seized with parturient pains ....[12]

Almost everything Chaos does is, it seems, a kind of spasm. Hawkins's interest in bodies distorted by involuntary motion never falters: his eye is firmly on the ball. Stomach contents, never far away in these poems, soon resurface. The Undying Worm begins to devour his mother, then vomits her back out, so she gets him back by vomiting on him:

> Chaos stagnated in his veins, then saw
> The half-digested Night disgorged to fear,
> Or a tormenting ventral agony:
> Night lives, she yawns, she more than Ætna belch'd;
> What darkness Herculaneum and Pompeii
> Destroy'd and what the cities of the Plain,
> Out she discharges on the Worm ....[13]

Annoyed, the Worm deals a painful sting to Lucifer, just as he manages to extricate himself from this complicated family. His angels congratulate him on a narrow escape, and the main plotline of *Paradise Lost* resumes as they all plot to overthrow Heaven.

Their plans, laid in Book 2, involve producing an awful lot of monsters, exhaustively catalogued. This will not surprise anyone familiar with Hawkins's fossil-reptile treatises, especially as he had suggested that ichthyosaurs and plesiosaurs were the creations of Satan, 'a teeming Spawn fitted for the lowest Abysm of Chaos'.[14] Like Chaos himself, many of these creatures are summoned by Lucifer thumping the ground. At the sound, parodying Raphael's Creation-narrative in *Paradise Lost* (here surely deliberately), there spring from the soil 'Scabb'd scolopendrians' and 'Creatures with scraggy skulls and jaunty jambs'. Some of the fiercest are turned into stone by Lucifer for no apparent reason (except to provide material for legend in human times).[15] Another catalogue of

12. Hawkins, *Christiad*, p. 42; compare Hawkins, *Wars*, p. 57.

13. Hawkins, *Christiad*, p. 44; compare Hawkins, *Wars*, p. 59.

14. Thomas Hawkins, *The Book of the Great Sea-Dragons* (London: Pickering, 1840), p. 22. On these works, see Ralph O'Connor, 'Thomas Hawkins and Geological Spectacle', *Proceedings of the Geologists' Association*, 114 (2003), 227–41; Victoria Carroll, '"Beyond the Pale of Ordinary Criticism": Eccentricity and the Fossil Books of Thomas Hawkins', *Isis*, 98 (2007), 225–65.

15. Hawkins, *Wars*, pp. 68, 69–70; compare Hawkins, *Christiad*, pp. 54, 56.

monsters occurs in Book 3, just before Lucifer's final defeat, and here Hawkins begs his 'lagging muse' Calliope to help him muster up the necessary poetic energy. The alliteration accordingly steps up a notch or two:

> Like goggling giants by the giants got
> Their propagators dwarfs; they gloam'd, they glid
> Gangrening ....[16]

Hawkins is at his most memorable when his Titanic fancy is blended with more mundane objects and reactions. Witness the itchy simile with which Baal and Apollyon are described:

> The rash that in men's armpit comes to plague
> Are not so fearful as those fearful two.[17]

Or the moment in Book 6 where Adramelec is destroyed in a blaze of angelic lightning, and his remains are compared to 'a perish'd cat' accidentally found in a burned-out house.[18] Or, again, the detail of how the fringe of snakes adorning the wings of Lucifer's ally Night keep nipping her allies, so that the irritated Lucifer 'was fain to strike them off'.[19] My favourite passage in this vein comes in Book 4 of both works, when the rebels' dismay at being banished to Hell is encapsulated in their dislike of foreign food:

> Then one stoop'd down and from such viscid ooze
> And sticky stuff as men know nothing of,
> Brought forth a fungoid thing therefrom produced,
> (By growth nor generation,) gourd-like shaped ....
> Transported convicts when they saw the strange
> Unwholesome things grown in Van Dieman's land,
> Less desolated look'd than all the gods
> At fruit and food like that ....[20]

16. Hawkins, *Wars*, p. 135; Hawkins, *Christiad*, p. 118.
17. Hawkins, *Christiad*, p. 160; compare Hawkins, *Wars*, p. 180.
18. Hawkins, *Christiad*, p. 220; Hawkins, *Wars*, p. 251.
19. Hawkins, *Christiad*, p. 226; Hawkins, *Wars*, p. 257.
20. Hawkins, *Christiad*, p. 152; compare Hawkins, *Wars*, p. 174.

The disgusted rebels 'all, or nearly all' complain to Lucifer. Here *The Wars of Jehovah* has the more vivid rendering, evocative of Hawkins himself in his best 'Letters to the Editor' mode:

> 'Gods!' then cried one,
> Into th' original gulf of things had we
> Fallen 'twere better.'
> Then one said, 'It were,
> This is intol'rable.'[21]

Did the reviewer of Hawkins's first publication, writing in the *Metropolitan Magazine* in 1834, ever regret writing, 'We wish Mr. Hawkins had written more'?[22] Today we may agree with Hawkins, but not in the way he intended, that his descriptions

> [surpass] aught
> That the enraptured poetaster dreams
> In the Titanic stretches of his soul.
> Hawkins felt his own words to be
> so high imaginative that
> The ears of nations and the mind of gods
> Shall joy to list .... [23]

This assessment now seems overly optimistic, despite these works' widespread availability through free online scans. And yet, a poem does not need to enthral entire nations or higher angelic beings to justify its existence. Two or three delighted readers are enough. And, as Jim's many studies of books and their readers have shown us time and again, a work can bring pleasure in more than one way, whatever its creator intended.

21. Review of Hawkins's Memoirs of Ichthyosauri and Plesiosauri in *Metropolitan Magazine*, 11 (1834), 433–4.
22. Hawkins, *Christiad*, p. 25; compare Hawkins, *Wars*, pp. 37–8.
23. *Ibid.*, p. 450.

Simon Schaffer

How to Philosophise with Von Hammer

'The philosopher did not sit in a stove-heated room…but instead explored bandit-infested country with hammer in hand'

Visions of Science

Towards the end of Jim Secord's moving lecture on knowledge in transit, there's a citation comparing the joy of creation with restoration of a vanished past, before Jim speculates on the future of history of science. It's worth recalling our present was once another's future. For example: in the year 2000 Von Hammer's group of Royal Geologists went to Tilgate Forest in Sussex. Equipped with hammer (and tongs), his team of pioneers, excavators and borers soon came across some impressive fossil bones. (Huzza! There's his femur!) According to Von Hammer, his workmen were all Columbuses who'd heroically discovered the remains of a Dragon. (That scapula's a wing!) However, according to a stony-hearted Professor of Fossil Osteology, the herbivorous beast ate neither children, nor pilgrims, but consumed undressed salads.

So ran a March 1841 tale by the comic writer Thomas Hood for the *New Monthly Magazine*, of which he was soon to become editor. As Jim's shown, old jokes illuminate their culture. The sickly Hood had just returned from financially and physiologically failed furloughs in the Rhineland. Already a Dragon expert, Hood had pastiched Friedrich Schiller's *Der Kampf mit dem Drachen*, famous for its illustrations by Moritz Retzsch of the heraldic beast and its ingenious opponent.

He imagined Retzsch as one of Von Hammer's dragon-hunters and reckoned Von Hammer's 'Finding of the Dragon' would furnish a fine comic illustration by 'making the bones gigantic & the workmen Lilliputian'.

Figure 1. In one of Moritz Retzsch's illustrations for Friedrich Schiller's *Fight with the Dragon*, the knight and his hammer-wielding armourers construct a metallic model to train for the fight. Thomas Hood used the poem for his own satire, *The Knight and the Dragon* (1839), and included Retzsch as one of the Royal Geologists in his 1841 story about Von Hammer and the Dragon. From *The Fight with the Dragon: A Romance* (London: Prowett, 1825), plate 7, engraved by Henry Moses from Retzsch's design (reproduced by kind University Library Cambridge).

Jim's 2004 lecture urges that past sciences are forms of communicative action. Here's a case of communication through hammers and headlines in the Age of Reform. Hood was familiar with the fossil bones found since the mid-1820s in the sandstone quarries of Tilgate Forest under the direction of the local medic Gideon Mantell. He'd visited Mantell's Lewes collections to see 'the gigantic Iguanodon', named in November 1824 from remnants of a vast herbivorous quadruped whose assemblage made Mantell's public repute. Soon after the announcement of an Iguanodon skeleton from a Kent quarry, Hood's 1836 *Comic Annual* carried a cartoon of Mantell atop a Mantel-piece cowering before a Saw-toothed Saurian (figure 2).

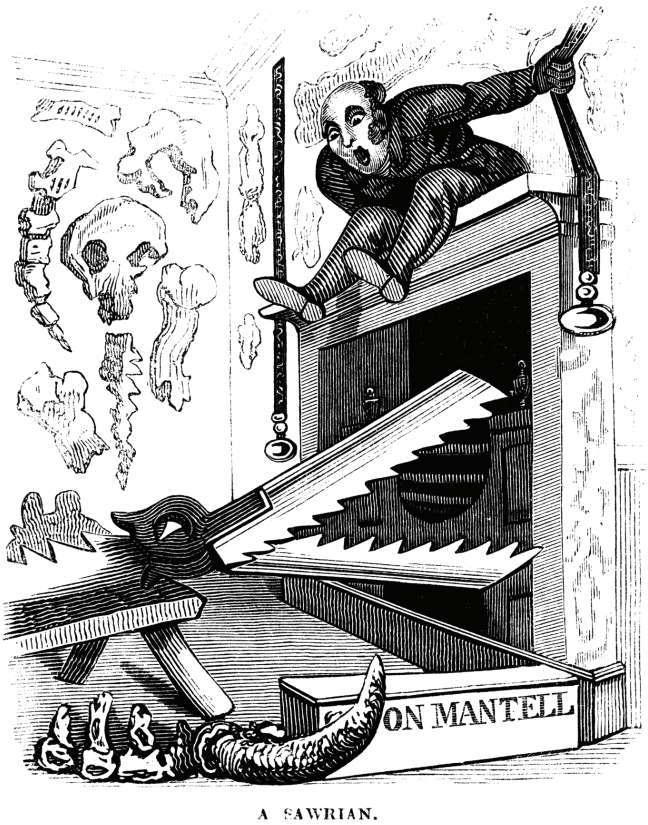

Figure 2. Thomas Hood published John Scott's cartoon 'A Sawrian' in his *Comic Annual* (London: Baily, 1836), 113. Mantell's copy is in the Alexander Turnbull Library, Wellington (reproduced by kind permission of the Science Photo Library.)

Lectures at Mantell's short-lived Brighton museum evoked 'the country of the Iguanodon' and 'dragon-forms'. In Hood's prophetic year 2000, perhaps coincidentally, a monument was unveiled at the site of the Whiteman's Green quarry where these fossils were recovered.

Mantell repaid Hood's compliments. The Sussex surgeon-naturalist judged Hood an 'excellent author and still more excellent man'. In the Lewes newspaper he praised his writings in medical terms: 'Hood's sparkling nectar warms thy blood, cheers thy heart and chases dull care from thy brain'. The story of Von Hammer and the Dragon was reprinted, first in Hood's 1842 *Comic Annual*, later in his friend Charles Dilke's *Athenaeum*. Mantell also appended it to (and privately claimed Hood had written it for) his 1844 Medals of Creation, a two-volume survey garlanded with a vignette of a geologist's hammer and chart of Tilgate Forest, completed with a summary 'retrospect' from the Age of Reptiles and a longer tour of geological sites. As *Controversy in Victorian*

Geology argues, practitioners saw rock formations as territories at least as much as times. Mantell's space-time trips had Von Hammer's Odyssey as apt tail-piece.

Hood's story's aim was somewhat Secordian – communication gives truth a geography. He reckoned reports of the Kraken, gigantic Scandinavian cephalopod, acquired veracity the further north their audience: 'with the mercury somewhere about zero, the abstract becomes concrete'. Similarly, Hood noted, accounts of 'the great American Sea Serpent' might be true in New York, but once transatlantic reports reached Greenwich its longitude (and truth value) shrank to nought. The 1840s saw intense interest in marine monsters, extinct and extant. Naturalists tried accounts of species development over geological time using journalists' reports of sea serpent sightings and entrepreneurial shows of gigantic marine skeletons artfully made up from smaller relics already known from works like *Medals of Creation*.

The *Illustrated London News* depicted giant marine beasts and hosts of sightings of American Sea Serpents. Some eminent naturalists, Mantell's friend Lyell and Glasgow professor William Hooker, first found little implausible in tales of living maritime monsters, but rather 'a sober fact in Natural History, quite unconnected with the gigantic exploits of the God Thor'. Others were sceptical. In November 1848 Mantell wrote to the *News* to explain how a fossilised maritime giant reptile had been ingeniously assembled 'with a view of exciting the ignorant multitude', from extinct marine mammal samples obtained in Alabama by a German-American dealer Albert Koch. Whatever their truth in America (since 1984 they've been the Alabama State Fossil), when brought to Europe, then expertly disassembled, the ancient whalebones ended up at the Royal Collections in Berlin.

Von Hammer's recovery of the herbivorous Dragon was indicated truth status had history as well as geography. Elites long dismissed such beasts as myths for the ignorant, but 'truth is affected chronologically'. Mantell explained that some extinct reptiles 'only required wings to be a flying dragon'. Geologists' practice mixed with publicity could shift timescales: especially so, because of the eponymous *Hammer*. 'There they go again, with a crash like that of Thor's Scandinavian hammer!' Geologists' hammers were mythically funny. In 1852 Dickens poked fun at one who persistently defaced villagers' houses by chipping off samples 'with his little geological hammer: the Professor replied that he knew no building save the Temple of Science'. Hammers were also threats: hence Ruskin's notorious 1851 comment on geologists' 'dreadful hammers' as challenging faith.

Jim has clarified how these geological hammers became tool and emblem. Surveyor

and East India Company professor John MacCulloch defined seven specialised types: 'he can decide on no rock on which he has not laid his hammer'. It was indispensable diagnostic equipment. In the bible of the Geological Survey, its boss Henry De la Beche explained how some rock could even be identified by sound when hammered. Hammers signified sociability and strength. Verses were composed (and sung) in honour of 'the hammer of Science profound'. The Survey's dining club called itself the 'Royal Hammerers', heraldry and wit matching Hood's satire. Jim cites a telling note to De La Beche from the honeymooning Surveyor John Salter: 'if all ladies are like mine, they are most capital hammermen'; his study of the soldier, foxhunter, imperialist and De La Beche's successor Roderick Murchison quotes *The Illustrated London News*: 'Thor with his mighty hammer, battering and crushing whatever came into his way'.

The Cambridge professor Adam Sedgwick seems to have been most implicated in the hammer's use and sense. His friends saw him 'hammer in hand like a second Thor' (the Norse resonance was commonplace). Sedgwick greeted his erstwhile opponent Murchison as 'my dear friend of the hammer' and, as Jim notes, signed off as 'yours to the top end of his hammer'. The divine helped coin the collective epithets 'brethren of the hammer' and 'knights of the hammer' to defend geologists' piety against critics such as William Wordsworth. Geological museums accumulated heroes' hammers: Cambridge's Sedgwick Museum has a fine collection. When its Sedgwick monument was first commissioned, plans for a bust rather than a well-armed statue were curtly dismissed: 'what is a geologist without the hand to wield the hammer?'

So hammers' status shifted. Sedgwick recalled how when hammering in the Welsh hills he'd been mistaken for a poor stonebreaker and given a shilling by a benevolent passer-by. Much quarrying was done by paupers on the parish. It's been argued that there was social incongruity in genteel geologists' adoption of the plebeian hammer. 'Skilful men with sharp-edged hammers do all the important work at stone quarries', helping shape urban-industrial Britain, mainly through small workforces and private employment.

Young Mantell heard 'wonderful stories of petrified snakes and crocodiles told me by the quarrymen'. About thirty worked in Tilgate Forest at Whiteman's Hill, active because of road building, whence Mantell was provided with much of his fossil material. Quarrymen 'accustomed to collect the teeth of fishes and other relics' allegedly knew him as 'a monstrous clever mon as lived in Lewes, a doctor who got kuriosities out of the chalk pits to make physic with' [sic]. It was they who put Lyell in contact with Mantell, who paid for prized specimens, at least until 'the ungrateful scoundrels

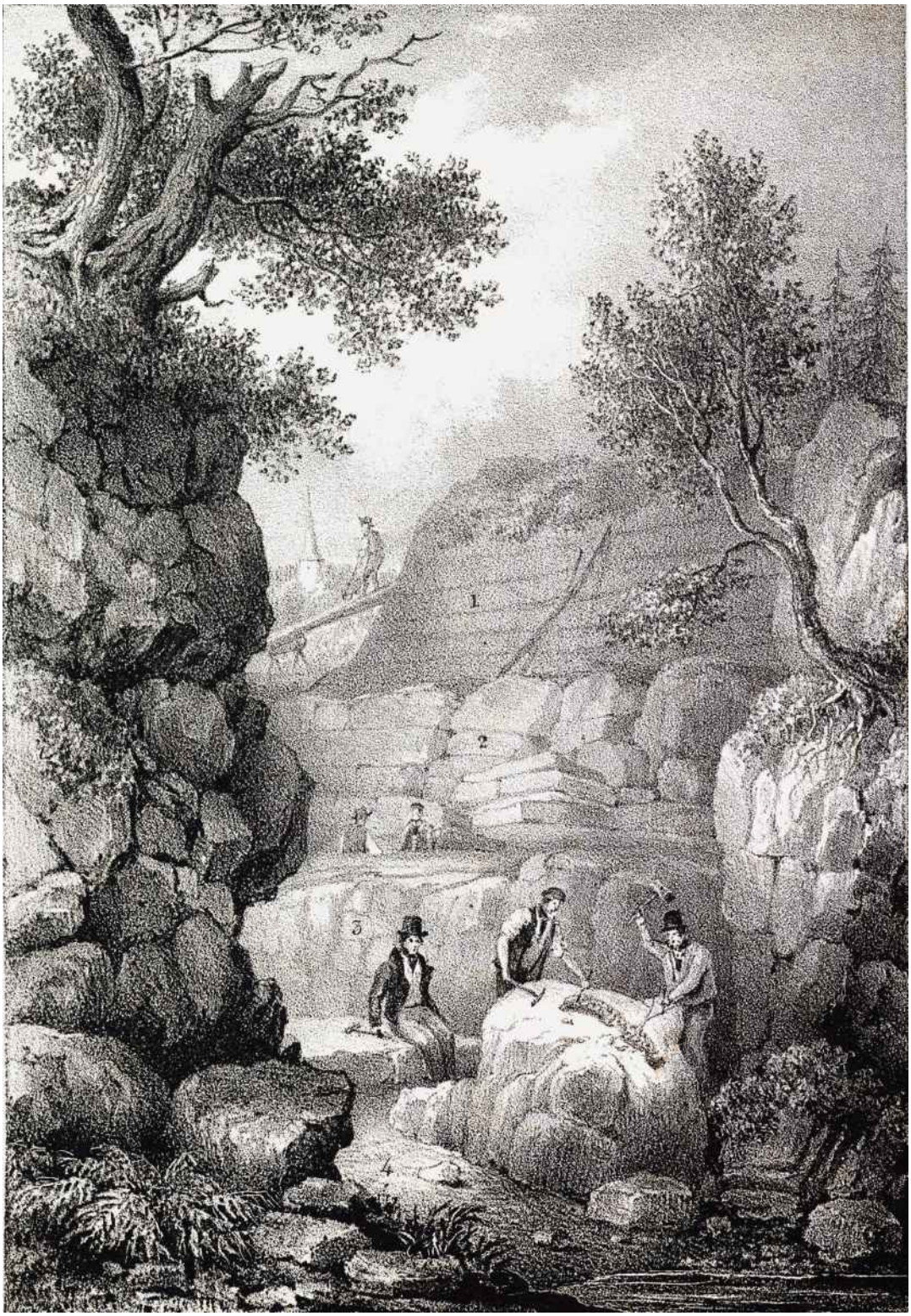

Figure 3. Quarrymen at Whiteman's Green near Cuckfield, whence Mantell obtained many fossil specimens. The image was sketched around 1826 and published in Gideon Mantell, *Geology of South-east England* (London: Longman, 1833), frontispiece (Science Photo Library).

found a customer on the spot'. Hammer-work both divided and connected gentlemen and quarrymen. One of Mantell's most important Tilgate specimens, the bones of Hylaeosaurus, formed 'so unpromising a mass that the quarrymen thought no-one would look at it but me, and therefore wrote me word'.

Mantell and his colleagues warned against 'frauds practised by quarrymen… Specimens, apparently perfect, are ingeniously constructed from the fragments'. Like Koch, or Schiller's knight, they might create what they claimed merely to discover. Hammer-work encapsulated the ambiguity of restoration and creation with which Jim closed his 2004 lecture. Hence the wit of Hood's tale. To show how truth shifted in space and time, he evoked quarry-work, 'banging, picking, splitting, digging, shovelling'. His patron Mantell, shoemaker's son turned surgeon, belonged to several hammer-wielding communities. Nor, of course, was Hood's story the sole hammer in the philosophy of truth. Retired to the Swiss mountains in 1888, Friedrich Nietzsche swiftly composed his masterly *Götzendämmerung*, *Twilight of the Idols*, a post-Wagnerian polemic designed to sound out the Idols, established truths the philosopher judged shams, relations which only seemed robust through long use. The new work's subtitle was *How to Philosophise with a Hammer*. Its aim was to apply the percussive hammers of acoustics and diagnostics to the truths of his age: 'there are no idols more hollow'. Doubtless an entire history and philosophy of science could be written of practical and epistemic hammers. It would need Jim Secord's vital vision. 'What fatiguing work it is to look at him, he's so prodigious', as the geologists of 1841 exclaimed in the year 2000: 'Huzza!'

Tom Simpson

From 'Theme' to 'Tectonics' in Histories of Imperial Science

Jim's pair of essays on empire and geology, published thirty-six years apart, share the compelling conviction that the globality of nineteenth-century science was substantially bound up with European empire.[1] The shift between the two from 'the imperial theme' to 'the tectonics of empire' is not only one of timeframe and personnel, from the early to mid-nineteenth century career of Murchison to the late-nineteenth and early twentieth century contributions of Suess and Wegener. It is also a significant rethinking of who and what contributed to imperial sciences.

It is testament to Jim's influential writing and teaching during the past four decades that core claims of the earlier essay have become established verities. Work since 1982 has put beyond doubt that 'men of science, with outward-looking traditions of international cooperation and practical needs for specimens and information from abroad, occupied an important place in [British imperial expansion]'.[2] The meticulousness and caution with which Jim built his argument against 'those who would cut science loose from the contingency of language' that Murchison's militarism and imperialism influenced the substance as well as the expression of his science is striking to someone trained in the 2010s.[3] By 2018, that there was mutually constitutive interplay between empire and geology (and a host of other sciences) went without saying, allowing Jim to instead analyse two new elements. First, how different modes and arenas of empire shaped different theories; and second, how imperial geologies incorporated non-Western

1. James A. Secord, 'King of Siluria: Roderick Murchison and the Imperial Theme in Nineteenth-Century British Geology', *Victorian Studies* 25 (1982): 413–42; James A. Secord, 'Global geology and the tectonics of empire', H.A. Curry, N. Jardine, J.A. Secord, and E.C. Spary (eds.), *Worlds of Natural History* (Cambridge: Cambridge University Press, 2018), pp. 401–17.

2. Secord, 'King of Siluria', p. 430.

3. *Ibid.*, p. 441.

knowledge structures even as they sought to occlude and deride them—processes that met with active resistance. If Jim's account of imperial geology in 1982 focused on the *imposition* of theories and territories conceived in the metropole, that of 2018 *prioritised* the exchange of knowledge—always unequal and violent, but nevertheless combining multiple places, voices, and traditions. I do not think, however, that 2018 Secord necessarily clashes with 1982 Secord. One of the great strengths of both is the priority given to the actors' own understandings of their imperial science: 'Murchison and his supporters *actively embraced* the metaphorical consequences of their scientific language'; the grand geological syntheses around the turn of the twentieth century were 'explicit acts of cross-cultural exchange'.[4]

In recent work considering sciences of water and ice at the frontiers of colonial India, I have found both of Jim's versions of imperial science invaluable. The lexicons of hydrology, riverine geography, and glaciology were as consequentially aligned with specific forms of imperial politics as Murchison's geology was with his soldiering past and expansionist vision for Britain and Europe's future. For instance, in 1863 the indigo planter James Fergusson gave a paper to the Geological Society of London in which he mapped and theorised shifting river courses in northeastern Bengal and Assam. This was a region in which brutal imperial conquest remained in living memory and harsh practices of labour discipline enabled extraction and profit by Fergusson and other cash crop capitalists. The 'young and active' River Brahmaputra became an expansionist empire in Fergusson's rendering, 'attack[ing] its banks', 'forming barriers against further incursions', and 'roaming through an unconsolidated country'. It even operated on a comparable timescale to British imperialism, conducting an 'invasion of the [Ganges'] territory' by substantially shifting course westwards during the period since the British conquest of Bengal and first survey of the river.[5]

Another British theory at the intersection of geography and geology advanced forty years later postulated that the Brahmaputra had, in 'quite recent times … beheaded' the River Tsangpo of the Tibetan Plateau, thereby beginning to receive its waters. The use of a term denoting decapitation to describe what is normally known as 'river capture' had particular resonance in India's northeast, a region in which imperial agents simultaneously decried and employed the violence of 'headhunters'.[6] (As a sidenote,

4. *Ibid.*; Secord, 'Global Geology', p. 406 (my emphases).

5. James Fergusson, 'On Recent Changes in the Delta of the Ganges', *Quarterly Journal of the Geological Society of London* 19 (1863): 321–54, quotations pp. 325, 334.

6. S.G. Burrard and H.H. Hayden, *A Sketch of the Geography and Geology of the Himalayan Mountains and Tibet* (Calcutta: Government Printing, 1907), pp. 155–6.

Bruno Latour considered the British use of Naga headhunting on the Western Front during the First World War as a sufficiently powerful instance of his concept of modern-premodern 'hybrids' to appear as the cover image of *We Have Never Been Modern*.) Surveyors and explorers, meanwhile, assimilated the enormous rivers that emanated in and beyond the Himalaya to their own self-image as heroic adventurers, 'do[ing] marvellous things' like 'twist[ing] and screw[ing] themselves between barriers into unexpected places'.[7] And like Murchison's expansive and expansionist cartographic visions of 'Siluria', a wide range of British personnel hypothesised mutually incompatible river courses stretching far into Asia's continental interior in order to assert the significance of their particular locales at the outskirts of northern India and Burma and to naturalise their preferred visions of imperial expansion through militarism or trade.

Similarly, British understandings of glaciers at India's Himalayan frontiers involved productive slippages between scientific and governmental registers. 'Discovering' and then analysing the extra-polar world's largest ice fields, located in the Karakoram region, involved navigating political relations with small Himalayan kingdoms under the suzerainty of Kashmir, which was in turn subordinate to British India. Theorising glacial tributaries—a major element of this work—was therefore bound up with tenuous British power in a domain of tributary empire. In addition, it was commonplace for explorers, surveyors, and mountaineers to aggrandise both icescapes and their own feats by describing mountains and glaciers as empires, as when the future Viceroy and later President of the Royal Geographical Society, George Curzon, invoked the 'imperial majesty' of a portion of the Karakoram.[8]

This 'imperial theme' alone does not, however, explain the knowledge of frozen and flowing water that emerged in the age of empire. Jim's later focus on cross-cultural exchange is invaluable in understanding how British imperial sciences relied on diverse Asian personnel, infrastructures, and knowledge systems even as many agents of empire derided and occluded them. These encounters extended beyond the selective use of Asians as labourers and transient 'go-betweens' to the fundamental substance and structure of knowledge. For instance, the much-anticipated 'discovery' of the Tsangpo-Brahmaputra in 1914 saw British soldier-surveyors tread the paths of Tibetan pilgrims and migrants and incorporate (in mangled forms) key elements of Buddhist cosmology

7. L.A. Bethell, quoted in A. Bentinck, 'The Abor Expedition: Geographical Results', *The Geographical Journal* 41 (1913): 97–113, here p. 112.

8. George N. Curzon, 'The Pamirs and the Source of the Oxus', *The Geographical Journal* 8 (1896): 15–54, p. 20.

to comprehend a region configured in this tradition as a vital place of sanctuary. Just like Jim shows in the case of Suess's geology,[9] British knowledge of Himalayan glaciers was bound up with partial readings of Hindu cosmology. Many agents of empire felt this worked both ways. Comprehending the Himalaya west of Nepal as the abode of Shiva structured understandings of ice, while what one explorer-naturalist claimed that 'a little experience in Himalayan meteorology' enabled a sympathetic comprehension of 'certain doctrines of Hindu theology'.[10] Varying forms of British intrusion into distinct portions of the culturally and topographically diverse Greater Himalaya at various stages of the nineteenth and early twentieth centuries facilitated very different knowledge exchanges. In turn, these exchanges resulted in very different British understandings of ice and associated geophysical processes. For example, in contrast to the Hindu pilgrimage infrastructure around the source of the Ganges, later British forays into the northwestern Himalaya and Karakoram instead relied on farmers and trans-Himalayan traders. Their understandings of glaciers as active agents and intimate experience of ice over extended periods was critical, among other things, for nascent theories of regional climate change based on recent glacial advances and retreats. Observations and contentions from this era continue to shape both Western climate science and lived practices of upland communities reliant on increasingly imperilled water sources.

Jim's work on geology and empire in both its earlier and more recent variants provides object lessons in being attentive to the diverse and often unexpected materials and metaphors that become embedded in science, and the diverse and often unexpected travels of scientific things and theories. For me, the shift from 'the imperial theme' in 1982 to 'the tectonics of empire' in 2018 first and foremost means a broader perspective on who and what constituted imperial sciences, and what impact these sciences had and continue to have.

9. Secord, 'Global Geology', pp. 404–6.

10. Capt. Ed. Madden, 'Notes of an Excursion to the Pindree Glacier, in September 1846', *Journal of the Asiatic Society of Bengal* 16 (1847): 226–66, here pp. 239–40.

SENSATIONS

Adelene Buckland

The first time I met Jim I was a 24-year-old literature student on my first-ever interview for an academic job, and he was a famous Professor in a field I ought to have known better. I made a fool of myself in the first conversation: he asked me why I was interested in geology, and I babbled about some terrible book I'd read instead of enthusing about rocks and mountains and fossils and stories. Later that evening, we went for a pre-interview dinner, and the restaurant had recently had a refit. A spotlight was dangling out of the ceiling and pointing directly at my face. So Jim sat in the dark, while I felt as if I was on the finals of Mastermind, dredging up answers from the very edges of my knowledge and praying I didn't say anything too silly. The next day, I left my car keys in the interview room by mistake. As I went back to retrieve them, I could hear Jim summarising my performance at dinner. 'My impression was …' he said, in a tentative tone, before noticing the interruption and keeping quiet until I had been escorted off the premises.

I'm glad I didn't hear whatever Jim had to say, but nonetheless I never stopped caring what Jim's impression was. Because the conversation I had with Jim at dinner that night was genuinely life-changing. I got home and scribbled a thousand notes all over pieces of paper, filled with energy and excitement and trying to remember every word he had said. And then I rewrote my whole thesis with an entirely new argument Jim had gently (though also firmly) nudged me towards. It was as if everything I had been trying to understand for three years had suddenly fallen into place.

Since then, I don't think I've had many conversations with Jim that haven't similarly transformed my ideas or revitalised my thinking. As anybody reading this will already know, Jim combines an amazing generosity - with his time, with his kindness, and with his knowledge - with brilliant intellect and passion. That combination got the best out of me, and I know it has done the same for many, many others. I somehow got the job

that day, and trying to repay Jim for the kindness and generosity he showed me then – and so many times since – has become a kind of life's work.

Years after that interview, I was in my first lecturing job and returning from maternity leave, and attending a conference in Aberdeen with Jim. My beautiful daughter didn't sleep, barely took a bottle, and had rarely fallen asleep on anybody but me. I was hundreds of miles away from her for the very first time, and so exhausted and out of practice I could barely gather my thoughts into a sentence, let alone a paper. I cobbled together a pretty poor presentation, and then fell back on my recently-acquired knowledge of Mumsnet in a discussion about popular engagement with the history of science. A fellow panelist openly scoffed at my suggestion. But Jim swooped in: the point I had made also stood for internet forums on the history of technology, he said. Afterwards, he sought me out to say he was glad I had raised the idea no matter what anybody else might have said, and we had another conversation that ignited my passion for a whole new field of research. That act of kindness (alongside a stupendous ability to connect so much knowledge across so many fields) characterises so much I have to say about Jim.

So I come back to that word: generosity. Jim has a way of turning your worst ideas into gold dust, reassuring you that what you have to say is worth saying no matter how stupid it seems (or is!), and then inspiring you to do just a little better each time you formulate a sentence. I have learned so much from him about the history of geology, of printing, and of the nineteenth century, but mostly I have also learned lessons about being the kind of academic who genuinely helps other people to flourish. What other kind of legacy matters more?

So Jim's retirement is a huge loss in so many ways, and to so many more people than me. The consolation is that all his books are on my shelves and on all my student reading lists, and it's a joy to return to them each semester. But I also know that there are hundreds of people out there with stories like mine, and who owe Jim not only an intellectual debt, but a personal one. The only thing I can say is thank you, and I can't say it deeply enough.

Bernie Lightman

Jim Secord: A Victorian Sensation

Figuring out what to write about James A. Secord on the occasion of his retirement has given me a lot of trouble. What is there to say about a valued friend and colleague who has had such a tremendous impact on the field as well as on me personally? First, I thought I should try to write something cute and whimsical. A few weeks ago, I got excited because I came up with the idea of writing a letter addressed to Jim and pretending it was from Charles Darwin. The letter would have imitated the format of the Darwin Correspondence and would have stated Darwin's criticisms of the entire project from a scholarly point of view. Moreover, it would have complained about how Jim and his team had violated the norms of Victorian decorum by revealing to the public eye every aspect of Darwin's life. Darwin was a very private person and he would have been appalled by the indignity of being examined like one of the beetles in his bug collections. In the letter Darwin would have likened those who read the unending stream of letters published over the years to voyeurs, who got some kind of sick pleasure out of reading about the torments of a man plagued by stomach ailments and bouts of flatulence. Why, Darwin would have asked, is it necessary to publish thirty volumes of letters when Darwin's son Francis and the Victorian public were content with the three volumes of letters published in 1887?

But just as I thought that I had come up with a cute idea that I could pursue, another possibility popped into my head. I could write a short, satirical, historiographical essay on Jim as a Victorian sensation. That is, as a sensation among those who work on the cultural history of Victorian science. Playing off the title of Jim's book I could talk about how in 2000 Jim threw us all off kilter with the Chambers book. I would have discussed how insensitive Jim was to those of us who were perfectly happy without having to grapple with such things as 'communication revolutions,' 'geographies of

reading,' or 'evolutionary epics'. Why did he have to complicate things so much? It really wasn't fair. Jim's book was nothing less than a model for analysing the readership of a scientific text, but what he never says is that this model can only work for the *Vestiges of the History of Creation*, which he'd done already, and the *Origin of Species*. The bar was set so high for the rest of us that we couldn't help but fail if we tried to incorporate the history of print culture into the work we were doing into the history of science. So thanks, Jim, for forcing me to work another seven years on *Victorian Popularizers* only to suffer through the inevitable comparisons between that book and *Victorian Sensation* in the reviews. Why, Jim, do you dislike me so much?

Although both of these ideas appealed to me because they allowed me to make fun of Jim as if I were delivering a speech at a roast, I realized that the joke would be on me. If I wrote the fake Darwin letter, then I would be drawing attention to the fact that my decision to work on John Tyndall's correspondence was just because I was jealous of Jim's position as editor in chief of the Darwin project. Furthermore, if anyone holds a retirement party for me in the future some smarty pants will get the bright idea of writing a critical letter supposedly from Tyndall to me. If I focused my sarcasm on Jim as Victorian sensation, I risked drawing attention to the fact that I have borrowed heavily from Jim's approach to print culture. In sum, both of these ideas would confirm what most knowledgeable scholars in the field know—that my entire career has been based on copying Jim's every move. So, I won't write something cute and whimsical. I will try to be more serious and speak from the heart.

When I think of Jim, the word that pops into my mind is 'generosity.' (I'm sure that what I am about to say about Jim's generosity is not news to his colleagues and graduate students.) Jim is among the most generous people that I know. There were at least three times over the years that Jim's generosity was on full display. The first time we really got a chance to know each other was when he came to give one of the keynote addresses at the annual Victorian Studies Association of Ontario (VSAO) conference. Jim stayed with me at my house the night before the talk. It was well before *Victorian Sensation* was published, so it may have been the early to mid-1990s. Jim gave a superb keynote on Chambers, which included many of the innovative ideas that were later fleshed out in *Victorian Sensation*. It was one of the best keynotes I have ever heard. However, the VSAO featured two keynotes, and Jim was followed by an eminent philosopher of science who also talked about evolution. But this second keynote was pretty awful, especially when compared to Jim's paper. The philosopher knew it and tried to jazz things up by trying to make it seem like he was replying to Jim. He made all sorts of insults, like calling Jim 'a dirty rat', thinking it would be funny. I was sitting with Jim and some of his admirers in the audience, and we were all shocked by the behaviour of

the philosopher. After the talk we all turned to Jim and apologized. Jim was completely unfazed. If he was upset, he hid it well. He made some comments about the speaker that were very generous considering the situation. And later shook the hand of this ill-behaved speaker. Classy!

A few years later, Jim was kind enough to send me the manuscript of what was to become *Victorian Sensation* and asked for my thoughts. I remember trying desperately to come up with some helpful comments and suggestions, but mostly I was so overwhelmed by what he had achieved that I had very little to offer. Nevertheless, he graciously thanked me for what I had written. When I sent him the manuscript for *Victorian Popularizers of Science* a number of years later, I got back detailed comments from Jim that led me to extensively revise portions of the book and to write a new introductory chapter. Jim's suggestions were spot on and the changes I made strengthened the book considerably. It must have taken him a long time to go through it so carefully. He was extremely generous with his time.

Jim, I wish you the best during this new phase of your academic life. I am looking forward to reading the half a dozen books you will be producing now that you are unencumbered by teaching and administrative duties.

Evelleen Richards

Jims' Big Book

Well here it is: the book, a hefty tome with celebratory sprig of wattle. Following best practice, I'll let it speak for itself (up to a point!): torn jacket, dog ears, fanning crest of yellow post-its of different ages (some chewed by pet Tonkinese, let's be historically specific), and on the inside, myriad underlinings and scorings of various readings and consultations, some forgotten (what did that particular passage signify for its then reader?), some still in play (ah yes!), and see here, something overlooked last time through (still nuggets to be found), and, oh dear, look there, the shameful scrawl of biro. A hard life, but most certainly a well read one.

As you all know, Jim's *Victorian Sensation* has been around now for some twenty years; winner of the Pfizer Award 2002, various other listings and accolades, and a slew of highly favourable reviews. This particular copy truly has been around, travelling from shelf to shelf to desk and back again, from long-term country house to down-size city apartment, on to recently acquired bush block, evacuated back to the city before the recent fires, retrieved in their aftermath, back in the bush, never too far from hand. It's been with me ever since I happily agreed to review *Victorian Sensation* for a forthcoming *Metascience* symposium.

I saw it then for what it was, a magnificent work, soon to become a classic, a major revision of the evolutionary debates of the nineteenth century, a book indispensable to the study of the making of evolutionary theory and culture. But, you may recall Jim, that I had some reservations. And now we need a little context, problematic as the term may be. I had expected something quite different from the author of this long awaited study of *Vestiges*. I had thought I knew something of his intentions. I'd known Jim from around 1986 when he generously invited me to Imperial College as a visiting scholar to immerse myself in the Huxley archives for a few glorious weeks. Over the following years, on bits of research leave parsimoniously doled out by my Australian university, I was able to visit other critical archives, and to conference and hobnob with Jim and like-minded historians of Victorian science, a cosy little coterie of contextualists, blazing a trail out of the slough of die-hard internalists and the sociologically uninformed — at least that's how I then saw it. I prized Jim's reconstruction of the Cambrian-Silurian controversy and his early studies of Darwin among the pigeon breeders — pioneering exemplars of contextual analysis.

More than this, Jim had whetted expectations with his admirable 1989 paper 'Behind the Veil', where he'd put the prosperous Edinburgh publisher Chambers, the secretive author of the sensational *Vestiges*, on display. In this earlier account, Jim made Chambers's own sensibility as a middle-class domestic family man central to an understanding of *Vestiges*. But now it seemed this was a 'mistake'. Jim had forsaken the hard-won gains of contextual history for the trendy tools of cultural history and literary criticism. There was no content as such, virtually no author, and certainly no intentions; in their place, the book's readers, in all their extraordinary diversity, were to give meaning to the text – and not just the 1844 or first edition of *Vestiges*, but every edition, every review, advertisement, bit of gossip, literary aside, lampoon, cartoon, evangelical pamphlet and polemical tract, the debates, lectures, letters, private journal transcriptions and bits of marginalia — everything Jim could lay his hands on in all those years of fossicking in the archives — went into the mix.

Now on one level, I appreciated this as a pretty cunning ploy. Chambers' determined anonymity and his systematic destruction of all notes and manuscript traces of his work, made a conventional account of the genesis of *Vestiges* almost impossible and lent itself most conveniently to Jim's reader-centred account. However, on a deeper and more meaningful level, I had to acknowledge that Jim's adoption of the tools of the newer criticism opened up new, more subtle ways of reading and recovering past and present interpretations of nature. With the shift from author to readers and their practices,

to a work of popular science, itself the product of new publishing technology and new means of communication, Jim's retrieval of the multitudinous interpretations and meanings of *Vestiges* revealed networks of relations and larger, more nuanced patterns of response than hitherto available to historians of evolutionary science and culture. This was a major historical reworking that put the sensational *Vestiges*, rather than the *Origin of Species*, at the centre of the evolutionary debates of the nineteenth century.

But — and there was a but — I argued, with a cunning twist of my own, that this more than considerable achievement was largely down to Jim's long apprenticeship in the contextual school of historiography, to his insistence on rigorously locating his chosen readers and their reading practices within their particular social and cultural contexts. He might employ the tools of literary criticism and cultural history and formally eschew what had become the standard contextual approach to the history of science; yet, I argued, it was the hard-won knowledge and precision, the sheer breadth of reading and close attention to time and place, of the skilled and experienced contextual historian of nineteenth-century science that Jim brought to his task of reader location, that gave (and continues to give) *Victorian Sensation* its formidable historical bite.

I, of course, as reader and would-be author, had a few intentions of my own. At that time, I had just freed myself up to work full time on a history of sexual selection, which, as I saw it, necessitated at least one fairly well known author, intentions to uncover and interrogate, textual exegesis aplenty and lashings of context.

And Jim, of course, in spite of my not unself-interested efforts, remains unrepentant. He continues to reiterate his view that contextual historiography has reached its limits, and to focus on books and their readers. And *Victorian Sensation* (together with his more recent writings) stands as a testament to his conviction. At the same time, and against his better convictions, Jim continues unfailingly generous and helpful to unreconstructed contextual historians.

I can only say thank you Jim — for your continuing intellectual inspiration, and for your unstinting support for historical scholarship, of whatever kind and condition; and above all for *Victorian Sensation*. It's a big book in every way.

My copy looks good for at least another twenty years. I hope its author is too.

Gowan Dawson

On First Looking into Secord's *Sensation*

I am neither a colleague nor a student of Jim's. In fact, I am not actually a fully-fledged historian of science, and the Keatsian allusion in my title might betray that my background is instead in English Literature. Yet the example of Jim's intellectual practice, particularly in its combination of extraordinary rigour and finesse, has been no less profound for me, even if, initially, it was encountered only on the printed page. I vividly remember the first time I came across Jim's magnum opus *Victorian Sensation* almost exactly twenty years ago, and in many ways it at once transformed my expectations of what historical scholarship could and should aspire to.

As a very green postdoc. on a combined literary and history of science project, 'Science in the Nineteenth-Century Periodical', I attended the Three Societies Meeting in St Louis in the summer of 2000. I had come to trust implicitly the judgement of my fellow postdoc. Jon Topham, and, as we approached the publishers' stands on the outskirts of the conference venue, Jon suddenly fell silent. On the Chicago UP stand was a proof copy—in plain white wrappers—of a book that Jon had evidently been waiting for a very long time to see. This, of course, was *Victorian Sensation* a few months ahead of its publication that autumn. I have to confess that it was not a book I was then aware of, but Jon's eagerness to get hold of this solitary advance copy alerted me that this must be something special. St Louis in August is swelteringly hot, and although this Three Societies Meeting was itself rather underwhelming, it was not advisable to leave the air-conditioned Hyatt where it was held. Instead I spent much of the conference skipping sessions and repeatedly visiting the Chicago stand to read as much of the proof copy of *Victorian Sensation* as I could, with the redoubtable Susan Abrams probably wondering what I was up to. Like many of the readers of *Vestiges* that Jim describes in the book, I was hooked, and as soon as I got back from St Louis I pre-

ordered a copy on a new website called Amazon (whatever happened to that?).

What particularly captivated me about *Victorian Sensation* was the extraordinarily 'thick' context in which Jim placed the reception of *Vestiges*, so much so that one could almost hear the crackle of the fires by which readers read and smell the pungent odour of their leather-bound libraries. Jim's insistence that textual meanings are made by readers rather than mandated by authors, and thus are never determinate or fully intrinsic, was thrillingly different from the more traditional close readings of scientific texts by the likes of Gillian Beer and George Levine that had been my main intellectual influences until then. The only problem was that *Victorian Sensation* set the bar quite so high for all subsequent attempts to describe how scientific works are read and used by particular audiences, although the development of a myriad of new digital resources over the last two decades has certainly benefited those, like myself, who aspire to take a Secordian approach to the history of science. In retrospect, it is all the more astonishing that *Victorian Sensation* was written before the advent of what Jim himself has termed the 'electronic harvest' of the mass digitization of nineteenth-century print culture.

It has been a great pleasure and privilege to come know Jim personally over the last decade or so, and he has been kind enough to help me out in several ways, even taking photographs of his own copies of the wrappers of Geological Society journals for me to use in a publication. However, it was that very first encounter with the proofs of *Victorian Sensation* in the air-conditioned aridity of a St Louis hotel that marked a turning point for me. In our new era of social distancing, when influence will have to be remote by default for the time being, I'd like to thank Jim for that decisive encounter with him on the printed page and to raise a (virtual) glass to a happy and productive retirement.

Eoin Carter
The Jim Nudge

As one of Jim's current PhD students, I'd like to relate an experience that I expect is familiar to many of us who have been lucky enough to benefit from his guidance over the years: the 'Jim nudge'. Delivered impeccably discreetly, only ever as 'one thing you might want to look into, if you have the time', the nudge operates at a level of subtlety that wouldn't sit out of place in the nineteenth-century literature that counts as yet another of the domains that Jim, all the while disclaiming any special competence, nevertheless knows a mysteriously large amount about. (Another specimen: 'I would never call myself a Darwin scholar', proclaimed the current Director of the Darwin Correspondence Project this past June.)

For all the subtlety of its delivery, the Jim nudge nevertheless packs a punch in shunting the lucky recipient into new worlds not previously considered. I can still remember my puzzlement, as a science undergraduate still re-learning how to write in whole paragraphs, that the primer text for understanding nineteenth-century Britain wasn't just *Origin*: it was *Middlemarch*, too. As a postgrad, some ill-formed queries on modernity found themselves gently steered towards the complete works of Reinhart Koselleck: '[this piece] if you're pressed, but it's generally all good stuff to think with', delivered with the kind of unaffected, reassuring familiarity one imagines from a mason recommending housebricks.

You never quite know, trooping up the stairs of Cambridge HPS to that cosily strigine roost at the top, what particular direction the nudge will be shunting you next. But you can bet your last stipend penny that, whether a week later or six months hence, you'll be able to say, 'I understand now'. Safe as houses.

Jim, on behalf of the nudged, thank you.

Jim Endersby
Secordian Sensations

There's a famous letter in which Darwin recounted the impact that his mentor, Charles Lyell's, work had had on him.

> I always feel as if my books came half out of Lyell's brains & that I never acknowledge this sufficiently, nor do I know how I can, without saying so in so many words—for I have always thought that the great merit of the *Principles*, was that it altered the whole tone of one's mind & therefore that when seeing a thing never seen by Lyell, one yet saw it partially through his eyes.[1]

I often feel that the same has been true of the impact of Jim's thinking on me (as long as I'm allowed to *completely* disavow any suggestion that he has played Lyell to my Darwin!). I have lost count of the number of times that I have found myself approaching a new subject, or trying to solve a fresh problem, and have found that – even if Jim has never written about it – something he wrote or said provides the key that lets me make progress.

Of all Jim's works, it was *Victorian Sensation* that has most clearly 'altered the whole tone' of my mind. It made me see that the real historical impact of science depends on who reads it, not who wrote it. When he was in the final stages of writing the book (which had already been well over a decade in the making), I had the privilege of being part of a small reading group who got to discuss the manuscript in progress. Once a week (if memory serves, which it increasingly doesn't), we read the latest chapter then met up and talked it over with Jim in the room, listening, making notes, explaining,

1. Darwin Correspondence Project, 'Letter no. 771,' accessed on 24 January 2020, https://www.darwinproject.ac.uk/letter/DCP-LETT-771.xml

clarifying and justifying. I suspect that most academics, if they were to take part in such a discussion, would tend to inhibit it (it's hard enough to discuss your finished, published work without being defensive or possessive, so how much harder it must be to expose an unfinished manuscript to rigorous scrutiny). Yet somehow, Jim's presence always enriched the discussions. He treated every opinion (however ill-considered) courteously by taking it seriously. Naturally, that sometimes meant disagreeing, and Jim never flinched from politely dissenting from those (among whom I was probably prominent), who regularly got hold of the wrong end of the stick and then started beating about the bush with it.

The *Sensation* reading group also made me realise how genuinely modest Jim is, something I first experienced towards the end of my MPhil, when he was advising me on how to draft my application to be upgraded to PhD status. Near the end of the discussion, I raised the fact that I had been assuming he would supervise my dissertation, but hadn't actually discussed the issue. (I was genuinely worried that I was being presumptive; he already had a *lot* of PhD students.) 'Oh!', said Jim 'well, I was *hoping* to' (as if he were the recipient of a favour).

Jim's attitude was crucial to the success of the *Sensation* seminars work; he always made us feel that that he was privileged to have us read his book. And Jim was genuinely interested in knowing whether he had made himself clear; he treated each misunderstanding as a failure on his part – assuming he hadn't expressed his point as well as he needed to. (Most of us, I suspect, are a bit too ready to assume that the fault is in our readers, not in ourselves.) Jim brought the same principle of charity to bear on his teaching. In my years as a graduate tutor, I regularly attended Jim's undergrad lectures, which were always models of lucidity and clarity. Yet if a student failed to understand a point, he always seemed to assume that he needed to improve his teaching, never blaming the student.

Of all the many bits of great advice I've had from Jim over the years, the one that sticks with me most was what he said when I was preparing my first-ever departmental seminar (the 'HPS Bar-Mitzvah', as some of us called it). He simply told me to assume that nobody in the room knew who Joseph Hooker was – and that nobody cared. It was my job to make them care, by making my topic as engaging as possible and connecting it to wider themes that they might already be interested in. Ever since that day, I've never given a paper, a talk or an undergraduate lecture without reflecting on that advice. In contrast to other senior academics with genuinely global reputations for excellent scholarship, Jim never acts as if anyone owes him a hearing; instead, he always

seems genuinely honoured that anyone would take the time to listen to what he has to say. That, more than anything, is the lesson I try to keep learning from Jim.

However, I cannot finish this without mentioning the other brilliant Secord, Anne, a fantastic and original scholar, a generous reader (and occasionally a fearsome critic). Over the now twenty years that I have been lucky enough to know Anne and Jim, I've always enjoyed seeing their relationship in action (not least because Anne always seems to know exactly when Jim needs teasing – and just how much he needs). It has also provided some glimpses of their shared values. She told me once that not long after they were married, they had finally saved enough to buy their own washing machine, and were heading into town to make the purchase that would free them from regular trips to the laundromat. On their way, they passed one of the big, second-hand bookshops, which had a complete, only slightly damaged, copy of the *Dictionary of National Biography* in the window (long before it was available online). They stopped, looked and salivated. The outcome, predictably, was that they ended up waiting many, many more months before they finally got a washing machine. Jim and Anne have convinced me that one of the keys to a successful partnership is that you need to agree about what really matters (whatever that might be). I feel lucky to have known them both, and hope to enjoy their inspiring friendship for many years to come.

There was and is a deep, intellectual generosity that runs through everything Jim does (not least in taking on the massively time-consuming directorship of the Darwin Project at a time when its future was in doubt). It is that, above all, that made him the best teacher I've ever had. He is still one of the most important models I have in mind when thinking about how to respond to a colleague's request for help, a fresh departmental responsibility, or how to present a topic to a new group of students for the first time; I always ask myself, how would Jim do it?

Joshua Nall

Silly Season

It is the fate of all academics to pass into retirement during Silly Season. Scholars and parliamentarians alike take their leave in the dog days of summer, creating, so the story goes, a void in serious news large enough to suck in nonsense and fancy to fill its place. Faced with the culmination of our own Secordian news cycle, it seems only appropriate to investigate the career of this most ephemeral of seasons.

The outlines of the phenomenon are known to most. Each year sometime around August or September, and faced with a recess of serious political activities, the press start to hunt around for stories of a less sober bent. The *Saturday Review* is credited with coining the phrase in July of 1861, in an article that laid down the basic ground rules for the Silly Season to come:

> When Parliament is no longer sitting and the gay world is no longer gathered together in London … the hands which at other times wield the pen for our instruction are now wielding the gun on a Scotch moor or the Alpenstock on a Swiss mountain. Work is left to feebler hands. Then it is that ecclesiastical reformers press the claims of Mr. Slope to the Deanery of Barehester; then it is that enthusiastic antiquaries rummage the ruins of Carthage in hopes of finding the bones of Hannibal. In those months the great oracle [i.e. *The Times*] becomes—what at other times it is not—simply silly.[1]

What the *Saturday Review* did not do is provide any origin story for either the phrase or the phenomenon itself. 'The Silly Season' was already taken to be a recognised

1. 'The Silly Season', *Saturday Review*, 13 Jul. 1861, 37–38, on p.37. Both the second and current (third) edition of the *Oxford English Dictionary* record this piece as the earliest use of the phrase 'Silly Season', a contention that is corroborated by a trawl of the usual online databases of Victorian books, newspapers, and periodicals.

feature of London's journalistic landscape, even if the particular turn of phrase was new. Uptake, as a result, was far from immediate. The first edition of *Brewer's Dictionary of Phrase and Fable*, published in 1870, contains no mention of 'Silly Season'; nor do the next twenty-six editions, all light revisions issued over the subsequent twenty-two years. It is only with the 1894 'New Edition, Revised, Corrected and Enlarged' that the phrase makes its first appearance:

> **Silly Season** (The), for daily news-papers, is when Parliament is not in session, and all sorts of 'silly' stuff are vamped-up for padding. Also called the 'Big Gooseberry Season,' because paragraphs are often inserted on this subject.[2]

This, naturally, sends us on the hunt for giant gooseberries. Bulk scanning and optical character recognition software—technologies that Jim has astutely dubbed 'the combine harvester of twenty-first century scholarship'[3]—make for fairly easy pickings, delivering a crop that quickly sends us back well before 1861. It is here that we find the origins of Silly Season preserved.

On Gooseberries

Reports of unusually large gooseberries can be found in the British press from at least the 1810s, and are numerous by the time of Queen Victoria's coronation. Most of these bulletins follow more-or-less the same formula: first the grower is named; then the dimensions of the celebrated fruit are given—or the weight of a dozen from a particularly oversized crop; and this, finally, is compared to recent examples from the surrounding area, invariably surpassing them. Sizes typically begin somewhere north of four inches in girth, though I have seen reports of fruits as large as five-and-a-half inches around and over one-and-a-half ounces in weight. Some accounts describe competitive weigh-ins at 'gooseberry shows' (themselves often part of larger horticultural gatherings or county fairs), and are not above describing the winning 'show fruits' as 'the largest, fairest, and most beautiful we ever saw.'[4] Competition was evidently fierce,

2. E. Cobham Brewer, *Dictionary of Phrase and Fable*, New Edition, Revised, Corrected, and Enlarged (London: Cassell & Co., 1894), p.1142.

3. James Secord, 'The Electronic Harvest', *British Journal for the History of Science*, 38 (2005): 463–67, on p.463.

4. The earliest report that I could find on Gale's *British Library Newspapers* database is of a 4ϸ-inch circumference specimen from 'a gentleman's hot-house at Welton,' as reported in the *Hull Packet*, 17 Sep. 1810, p.3. The fulsome quote can be found in the 'Miscellaneous' section of the *Lancaster Gazette*, 14 Aug. 1830, p.4.

with growers swapping cultivation tips in journals such as *The Gardner's Magazine* and the *Horticultural Register*.[5] There were even rumours of underhand tactics, with an anonymous report in *The Doctor* accusing some growers of 'contriving to support a small cup' under each competition fruit so that it 'shall for some weeks rest in water,' a trick they dubbed 'suckling the gooseberry.'[6]

Gooseberries made for particularly good short news pieces owing to their seasonality. Reports of giant green fruits should not, therefore, be mistaken for the more common 'filler' pieces inserted by makeup editors to plug gaps between articles as newsprint was typeset. Such pieces were used year-round in almost all pre-digital newspaper print rooms and could cover just about any subject.[7] Gooseberries, conversely, were a serial crop, with a consistent summer harvest consonant with the annual rhythm of August and September's slower news days, especially among that flourishing product of the 'industrial revolution in communication,' the regional newspaper.[8]

What is less clear is how giant gooseberries became an idiom for a more general type of slow news day article. Recognition of the 'gooseberry type' came relatively quickly. In April of 1835, for example, the *Brighton Patriot* railed against newspaper stamp duty by noting that, whilst periodicals that eschewed current affairs went untaxed, 'no sooner does a paper … announce the dimensions and measurement of a very large gooseberry … than the Stamp Office interferes, and 4d. per sheet is charged for this important announcement.'[9] Before long the concept had assumed a whiff of the provincial, at least from the perspective of the more bullish London papers. In August of 1849, for example, the *Daily News* scoffed at the "enormous gooseberry,' which appears periodically in country newspapers.'[10] But it seems that it was only in the 1850s that this kind of fruity satire started to become common currency. Typical to a new breed of 'gooseberry season' coverage was its use as a trope, most commonly to signify either a particularly daft piece of journalism or the fallow summer news period more generally. As early as 1849, Charles Dickens could write to a friend ridiculing a report of a mouse suffocating a cat as being 'founded on no better evidence than

5. See, for example, M. Saul, 'On Growing Large Gooseberries for Exhibition', *The Gardener's Magazine*, Vol. 10 (1834), p.42.

6. 'Large Gooseberries', *The Doctor*, as reprinted in the *Manchester Courier*, 11 Aug. 1838, p.2.

7. Jack Shafer, 'The Rise and Fall of the 'Bus Plunge' Story', *Slate.com*, 13 Nov. 2006: https://slate.com/news-and-politics/2006/11/the-rise-and-fall-of-the-bus-plunge-story.html [accessed 25 Jun. 2020]

8. James Secord, 'Progress in Print', in: Marina Frasca-Spada and Nicholas Jardine (eds.), *Books and the Sciences in History* (Cambridge: Cambridge University Press, 2000), 369–89, on pp.369–74.

9. 'The Press', *Brighton Patriot*, 14 Apr. 1835, p.4.

10. 'Duke of Atholl', *Daily News* (London), 29 Aug. 1849, p.4.

the gigantic gooseberries that roll, every fruit-season, through the newspapers.'[11] By 1854 the trope was commonplace enough that Dickens could deploy it in *Household Words*, using a 'gooseberry weighing upwards of three ounces' in the garden of a 'Mr. Pips' to open a withering satire on the entire genre of summer news padding.[12] More cunningly, giant gooseberries could also serve as a useful foil, signifying frivolous and much-repeated gossip while simultaneously offering up a ready excuse for reprinting that very same scuttlebutt. So, for example, the *Cambridge Independent Press* could report in August of 1865 on several accounts of the Chief Baron of the Exchequer's impending resignation, before declaring, in an exculpatory final line, that such reports 'appear as regularly as those respecting giant gooseberries.'[13]

If any one publication could be said to be responsible for this transformation of the gooseberry from a regional titbit into a national trope, it was *Punch*. This magazine, as Jim has shown, 'triumphed over all other forms of caricature … by tying inoffensive humor into the latest news.'[14] It also greatly enjoyed lampooning the foibles and pretences of Fleet Street and it adored silly words. Gooseberries were very much on brand. Founded in July of 1841, the fruit soon became something of a running joke in the magazine, sometimes as a description for a fool, sometimes as an example of poor quality or knock-off booze (as in the euphemistic 'gooseberry champagne'), but most often as a marker of journalistic desperation. Reports in August 1842 of a reduction in freelance rates on Fleet Street pushed the magazine to lament that 'the fact of an early gooseberry being found in a garden will not realise more than five-sixth of the sum it formerly used to produce' for the 'penny-a-line' hack.[15] Just as a 'woman's appetite for scandal grows by what it feeds upon,' *Punch's Almanac* for 1848 cautioned, so 'a newspaper's appetite for Enormous Gooseberries … is never appeased.'[16] When the magazine proposed a new 'Regius Professor of Penny-a-lineism' in November of 1854, it offered up as the first examination question for prospective candidates: '1. Find the circumference of the most 'enormous gooseberry,' and explain the ramifications of its roots.'[17] By 1856 the oversized fruits had become such a shared joke among *Punch*'s

11. Dickens to R. H. Horne, 12 Aug. 1849, in: Graham Storey and Kenneth Fielding (eds.), *The Letters of Charles Dickens*, Vol. 5. 1847-1849 (Oxford: Oxford University Press, 1980), pp.592–93.

12. 'It is Not Generally Known', *Household Words*, 2 Sep. 1854, p.49.

13. 'Notes of the Week', *Cambridge Independent Press*, 5 Aug. 1865, p.4.

14. James Secord, *Victorian Sensation: The Extraordinary Publication, Reception, and Secret Authorship of* Vestiges of the Natural History of Creation (Chicago: University of Chicago Press, 2000), p.460.

15. 'The Penny-a-Line Panic', *Punch*, 27 Aug. 1842, p.93.

16. 'Appetites', *Punch's Almanac*, 1 Jan. 1848, p.9.

17. 'New Professorship', *Punch*, 25 Nov. 1854, p.208.

regular readers that the magazine could lament their scarcity and express the hope that, before the summer was out, a few might still 'ripen to their usual full-blown Falstaffian dimensions.'[18]

The proliferation of these stories occasioned a crucial transformation from a regular series of isolated barbs into a coherent and shared sense of an entire journalistic sub-genre. It is against this background that the staunchly conservative *Saturday Review* proposed 'Silly Season' as a new name for an already familiar phenomenon. Indeed, the main thrust of the piece was a pointed criticism of that 'great oracle' *The Times*, precisely because the London paper had begun to dabble in a species of reportage that had until then appeared beneath them. 'We are told by careful gardeners,' the *Review* sneered, 'that one great advantage of the *Times* over the penny papers used to be that the one formed, and the other did not form, an efficient defence for gooseberry and current-bushes.'[19] Readers would have cared more about the specifics of this attack than the name that the writer gave to it, and they would likely have anchored their interpretation in the familiar idiom of fat fruit, still present in the *Saturday Review*'s broadside.

That *Punch* were slow on the uptake hardly helped the chances of 'Silly Season' as a neologism. Six years after the *Saturday Review*'s piece, a cartoon in the magazine depicted 'Punch's Dream of the Dead Season' (fig. 1), starring a cheerful and hairy gooseberry floating above the eponymous character's head alongside a range of other sidekicks typical to the season. It is only in July of 1871—a year after Brewer first published his dictionary—that the tide began to turn in Silly Season's favour. *Punch*'s gooseberry returns, but this time in a much less good mood (fig. 2). Despondent at the unexpected adjournment of that summer's news

Fig. 1: 'Punch's Dream of the Dead Season', *Punch*, 31 Aug. 1867, p.87. Public domain.

18. 'Extreme Scarcity', *Punch*, 2 Aug. 1856, p.42.
19. 'Silly Season', *Saturday Review*, p.37.

THE GIGANTIC GOOSEBERRY.

G. G. "HERE'S A PRECIOUS GO, FROGGY! I THOUGHT BIG GOOSEBERRIES AND SHOWERS O' FROGS UD HAVE A HOLIDAY THIS 'SILLY SEASON,' ANYHOW. BUT THE PRECIOUS TICHBORNE CASE HAVE BEEN ADJOURNED, AND WE'LL HAVE TO BE ON DUTY AGAIN."

Fig. 2: 'The Gigantic Gooseberry', *Punch*, 15 Jul. 1871, p.15. Public domain.

sensation, the Tichbourne case, *Punch*'s gooseberry must return to work alongside seasonal sidekicks like the shower of frogs, none of whom will 'have a holiday this 'Silly Season'.' It is the first appearance of the phrase in the magazine and a marker of a notable shift in their style guide. Within six weeks the phrase would appear again, this time as a headline above a list of story ideas for the struggling summer newshound—a list that including 'fancy dogs' and 'the wants, grievances, and neglected condition of journeymen metaphysicians and moral philosophers.'[20] 'Silly Season' by no means replaced gooseberries, so much as the two began to coinhabit a broader journalistic trope that encompassed silliness, oversized fruits, showers of frogs, and various other oft-ridiculed features of the summer slow news period. 'Silly Season' just became a useful means of encompassing all of these features in one handy idiom.

International Waters

So far this story has been very much a British one. Had it been told from the perspective

20. 'The 'Silly' Season', *Punch*, 2 Sep. 1871, p.90.

of Poland or Hungary then we would have heard about 'cucumber time' (*ogòrkowy*; *uborkaszezon*); Swedes have their 'news drought' (*nyhetstorka*).[21] Even amongst the English-speaking world geographical distinctions must be attended to. A perusal of a mid-twentieth-century U.S. edition of Brewer's famous dictionary reveals an intriguing tweak. There, 'Silly Season' is defined as the period of the year when, 'through lack of news, the papers had to fill their columns with trivial items such as news of giant gooseberries and sea serpents.'[22] The latter were certainly not unknown in Britain, though they seem to have lived very much in the shadow of the gooseberry. As early as 1846, *Punch* listed a range of 'boons to newspapers' to help along the slow summer news days, including 'the American sea-serpent.'[23] The piece lampooned recent sightings of the creatures that had occasioned considerable press speculation—as well as drawing commentaries from several high profile British naturalists including Charles Lyell and Richard Owen.[24] As *Punch*'s appellation indicates, the creatures were typically associated with the United States, where the fishing and whaling industries appear to have driven a much greater quantity of sightings. Reports of sea-serpents are certainly numerous in American newspapers right across the century, as are reproductions and satires of those reports on both sides of the Atlantic. Take, for example, the British-born astronomer and popular lecturer Richard A. Proctor's 1887 intervention on the subject. Writing in an American magazine, *The Forum*, Proctor ventured that sea-serpents were *not* 'of the 'big gooseberry' type.'[25] This claim was then reported widely in both British and U.S. newspapers in the weeks following, kicking off a short sensation over the matter. With the rise of submarine cable networks, sea-serpents had become a transatlantic phenomenon.

In this sense they are very like the subject that first brought the Silly Season to my attention. It was in a PhD supervision that Jim first suggested that I research the topic, to find out whether it played any role in the sensation I was then studying—the 'great Mars boom' of August 1894. Much of my research had been focussed on the role of transatlantic mass media, especially newspapers, in stoking speculation over

21. 'Silly Season or Cucumber Time', *Europeana Blog*: https://blog.europeana.eu/2018/08/silly-season-or-cucumber-time-3-fun-cultural-activities-for-the-summer/ [accessed 28 Jun. 2020].

22. *Brewer's Dictionary of Phrase and Fable*, Revised and Enlarged (New York: Harper & Bros., [1953?]), p.838.

23. 'A Boon to Newspapers', *Punch*, 3 Oct. 1846, p.136.

24. Sherrie Lyons, 'Swimming at the Edges of Scientific Respectability: Sea Serpents in the Victorian Era', in: David Clifford, Elisabeth Wadge, and Alex Warwick (eds.), *Repositioning Victorian Sciences: Shifting Centres in Nineteenth-Century Scientific Thinking* (London: Anthem Press, 2006), pp.31–44.

25. 'What is a Sea-Serpent?', *St. Louis Globe Democrat*, 3 Apr. 1887, p.18.

evidence for life on Mars. Might the planet's mooted 'canals' be another concoction of the summer's slower news days? In the end my own conclusions were ambiguous.[26] What I hadn't known then was that *Punch* had already answered the question for me, in the form of a poem (fig. 3, facing). As English-language news cycles became truly transatlantic, so too did their tropes and idioms, merging British wit with the best of American intelligence. It's a synthesis very familiar to those of us who know Jim—and a feature that's set to run and run.

A VOTE OF THANKS.

By a Hard-up Journalist.

[A strange light has appeared on that part of the surface of Mars not illuminated by the sun. The *Westminster Gazette* of August 2 asks the question, "Is Mars signalling to us?"]

OH, men of Mars, we thank you, your behaviour's really kind!
(Forgive us if you've lately slipped somewhat out of mind!)
For now the silly season's set in with all its "rot,"
You once more raise the question whether you exist or not.

No doubt the good old topics will trot out yet again:—
"Is Flirting on the Increase?" "Is Marriage on the Wane?"
Big gooseberries as usual with sea-serpents will compete,
To help the British Press-man his columns to complete!

But you, my merry Martians, have opportunely planned
A mild but new sensation for the holidays at hand;
Your planet's "terminator," it seems, is now ablaze—
'Tis, say the *cognoscenti*, a signal that you raise!

What is it that you're shewing terrestrial telescopes?
Is't pills you're advertising, or booming patent soaps?
How on earth can one discover what by this beacon's meant,
Whether news of Royal Weddings or Railway Strikes is sent?

Alas! We haven't mastered the transplanetic code;
Your canals are yet a riddle, in vain your fires have glowed!
Still, do not let your efforts each August-tide abate—
You furnish us with "copy," which maintains the Fourth Estate!

Figure 3: 'A Vote of Thanks', *Punch*, 11 Aug. 1894, p.65. Public domain.

26. Joshua Nall, 'Constructing Canals on Mars: Event Astronomy and the Transmission of International Telegraphic News', *Isis*, 108 (2017): 280–306, on pp.300–1.

Lauren Kassell

How Jim Smells, or My Victorian Inspiration

I met Jim around 1998, when he was a Lecturer in the Department and I arrived as a Research Fellow at Pembroke College. He was finishing *Victorian Sensation*, I was finishing my book on Simon Forman. We became colleagues in 2000, and we have had countless conversations in seminar rooms, corridors, offices, pubs, and gardens. We have talked about research, about the Department, about our students, about my career. I remember most of these exchanges not for their particular words or arguments or decisions, but for Jim's myopic clarity and lanky enthusiasm. He knows how to love an archive, to renovate a piece of writing, to tell a story, to spot an opportunity. The most flattering thing he ever said to me was when the Casebooks Project had made a 90 second animated film: 'Whatever you're selling, I want to buy it.'

I remember two other exchanges vividly. The first was when we were walking past Queen's College, probably on our way to the UL but I don't know why, and he told me that he had no sense of smell. He told me this not because we were comparing our deficiencies, but because he was trying to reconstruct the smell of the library of a Victorian gentleman. He was doing this through texts, unimpeded by his own experience. In the end, he relied on Isaac Disraeli's snout, recast as his own: 'A collection gathered by a parvenu smelt like a tannery. It could knock you down with the odor of leather polish and binder's glue, showily bound volumes that would never be read. A genteel library was more likely to be acquired over generations or for straightforward practical use.' (Secord, *Victorian Sensation*, p. 403) I think about Jim's inability to smell when I discourage students from relying on their own bodies to understand the experiences of others, and when I try to understand the allure of historical reconstruction. Jim couldn't smell like a person of the twentieth century, but he was happy to learn to smell like a nineteenth-century gentleman.

The second exchange was across an interview table. Jim asked me something like, 'What would you do if you found a volume written by Simon Forman that summarized in a tidy fashion all of the things that you've been trying to work out from his messy manuscripts?' 'I'd burn it', I blurted out, confirming, more rashly than Jim could have hoped, that I was not an antiquarian, endlessly pursuing arcane manuscripts for their own sake. Then I must have said some other things about studying everyday practices, not seeking a philosophical key.

A decade later, I remembered Jim's question when I discovered an unknown Forman manuscript. It was in Oxford, in the Bodleian, right under my nose with the rest of Forman's volumes collected by Elias Ashmole. But it did not bear Forman's name and had not been catalogued as his. I was working my way through the daily quota of manuscripts, seeking, somewhat fruitlessly, evidence of the practice of astrological medicine beyond Forman's, and I thought the librarians had fetched the wrong volume from the stacks. Then I realized that they'd brought me the correct volume. It was in Forman's hand, with Forman's examples, yet I, who had read every Forman manuscript I could find, had never seen it before. I didn't want to burn it. I was sitting in one of the bays in Duke Humphrey's Library, with a tall leaded window at the end, and I wanted to toss it down to the walled garden below and take it home with me to Cambridge to study.

I didn't do that. I did spend the rest of the day reading it. I noted that the pages were stiff and scratchy with pounce, Forman's sprinkling of fine sand to prepare the paper for his quill. I'd met pages like this before, in Forman's less interesting volumes. His casebooks, diaries and autobiographies have been smoothed by centuries of readers. I speculated that William Black, the Victorian gentleman who had carted trunks of manuscripts from Oxford to London over the decade and a half that it took him to describe all 714 of them, had had too much sherry when he arrived at Ashmole 395. Here's his entry:

> 'A folio volume, containing 383 leaves, many of which are blank at intervals.
>
> 'A large astrological treatise "Of the 12 Signs what partes of man's body they have and what dyseazes they cause." f. 3.
>
> 'On the first leaf are 2 stanzas (partly decayed), and on the last leaf is "An apprevid medison for a woman whose breste waxeth sore after a child hath lefte sucking." Observations on some particular diseases are written toward

the end of the book, of which there is a short list on the last page.'

William Black, *A Descriptive, Analytical, and Critical Catalogue…* (Oxford, 1845), col. 310-11.

Now I realize that a dulling of the senses wouldn't explain Black's omission. He'd read dozens of Forman's astrological volumes, many incomplete, all in his crabbed hand. He was interested in Forman, or at least in Forman as playgoer. Soon after he was commissioned to catalogue the Ashmole manuscripts in 1830, he'd written to his friend John Payne Collier, the Shakespearean scholar and later notorious forger, with news that he'd found the manuscript eye-witness accounts of the bard's plays for which Collier had been looking, tipped off, it seems, by other antiquarians. He been seeking them, mistakenly, in the Bodleian rather than the Ashmolean, where Forman's papers were kept until 1860. Black, whom Collier described as 'of peculiar acquirements', dutifully included a copy of Forman's 'Bocke of Plaies' in his letter. Yet when Black arrived at Ashmole 395, he opened the beginning and end of the volume and left the 380 middle pages undisturbed and the author unnamed. Perhaps he'd seen enough of Forman's writings on stars, diseases, and women's bodies to probe further. Perhaps something—mundane or divine, we probably can't know—distracted him from the task at hand.

I worked through Forman's examples to date the volume to c. 1598–1603, knowing this would be useful when I would write, which I eventually did, to announce my discovery to the Bodleian's Librarian. I also read the volume seeking traces of Forman, ready for him to tell me his secrets. In a passage on Jupiter in Gemini and blood-letting, he showed me a rare glimpse of his work, noting 'I did myself open a vein in this fellow …' (MS Ashmole 395, f. 79v, original punctuation, spelling modernised). On the perils of Scorpio for generation, true to his grandiose style, he concluded, 'And herein lyeth hid a great mystery of philosophy in operation purtrefaction and destruction of bodies by rotation of the heavens to generation of a new form.' (f. 217) When describing the fate of those born when Saturn is in Capricorn, he explained that they converse better with angels and spirits than with other men, seldom live beyond 30 years because of the jealousy of these divine beings (Forman was around 50 when he wrote this), and have cool and dry bodies and thus no inclination to lechery. I knew (many people know) that Forman was lecherous. I knew that his efforts to summon spirits produced little more than stinking flames in the shape of a large black dog. The passage continued, 'for

lechery is the spoil and overthrow of all godliness of life and is the only hinderance of all knowledge which doth so dull and besot a man's wits and makes a man not fit for God nor his angels for if thou mean to have conversation with holy angels thou must be clean pure just and holy as they are for like will to like in every degree.' (f. 277, original punctuation, spelling modernised) The monologue concludes with the usual gesture to scripture, 'For with the holy thou must be holy.' Here was a key, of sorts, to Forman's manuscripts. Here was a rare moment of reflexivity, born of frustration, about why he could not attain divine inspiration even though he had mastered, through his own industry and experience, astrological physic. The volume remains, so far as I know, in the Bodleian and I do not know whether anyone else has read it.

I thought about Jim's question about discovering Forman's hypothetical key again a few years ago when the Casebooks Project released the batch of Richard Napier's cases from the 1610s. Our old site (we've since moved to a new site at the UL) generated graphs to represent numbers of patients or querents across time. There was a dip between September 1613 and May 1614. Cases were missing. Maybe even a volume was missing. Sometimes I think I should fabricate it. The question is whether I should do so with the sensibility of a seventeenth-century astrologer, a twenty-first-century academic, or a Victorian gentleman.

Leslie Howsam

A Sensational Challenge to the Interdiscipline of Book History: Literary Replication

As a historian of the book who is based in the discipline of History, I have been a fan of *Victorian Sensation* since it was first published. Historians – of science and other kinds of knowledge – think in terms of the book as a cultural transaction, even more than the book as text and material object. The text is the first port of call for the literary scholar, as the object is for the librarian. But for the historians among the book historians, it's the way that readers appropriate and share and *use* a book that matters, even while reading is influenced by an author's intellectual or literary intentions, an editor's interventions, and a printer's or publisher's decisions about format and design. Those linked themes of readership and usage are at the heart of James Secord's methodology. Even for historical scholars with little interest in evolution, or Darwin, or *Vestiges*, Jim's approach makes sense. A book with that kind of power creates communities across time and space, and every iteration of its materiality leaves behind crucial evidence of the communities it created. For me, and for other historians, the theoretical framework that supports *Victorian Sensation* is a gift. It complicates and challenges the model of a 'communication circuit' – rather linear and notably placebound and timebound – commonly used to illustrate the links among books and the people who make, use, move, and transform them.

When I wrote about book history in *Old Books & New Histories* (2006), I was delighted to be able to 'boost the signal' – as we say nowadays – on Jim's idea of 'literary replication'. In two brief paragraphs on page 126 of *VS*, Secord uses a multi-layered metaphor drawn from the history of science to offer a model of how books actually get reproduced. 'Literary replication' gently critiques the dominant model of a 'communication circuit' suggested by Robert Darnton. The analogy is not with

an electrical circuit, but with rather with experimental practices and how they're commonly understood. Secord writes: 'The replication of a scientific experiment used to be thought of as a mechanical process in which an identical object was produced. Historical and sociological work over the past two decades has shown that this is not the case, and that replication is an accomplishment achieved *through agreement that two experiments are in fact "the same"*.' (italics mine) Just so did the book trade and its customers agree that two texts issued under the same title but in different formats and for different audiences were, in fact, the same book.

The concept is the basis for Jim's insight into the way that communities of readers make meaning from the material texts they encounter. 'Every act of reading is an act of forgetting [and] … the books that allow us to forget the most are accorded the authority of the classic' (p. 515). For book historians, the metaphor from the history of science defamiliarizes knowledge that is so deeply embedded as to be taken for granted, and allows us to see it afresh. It's the everyday business of book historians, especially bibliographers and cataloguers, to know about how books proliferate – not only in the issue of multiple copies, more or less exact, of the 'same' text by a known author, but in multiple editions of the 'same' work, where the authorship might be contested, plagiarized, or even irrelevant. Textual instability is commonplace, whether the scholar is dealing with a canonical author or a scarce volume. We are equally familiar with the concept of social construction, embedding in a social and cultural matrix the activities of authors, printers, publishers, bookbinders, booksellers, readers, teachers, and others. Calling these processes 'literary replication' takes us out of the archive and rare-book room for a moment and drops us into a messier world driven by ungovernable, though not unpredictable, human motives.

Some contemporary conversations, in the Covid winter and spring of 2020, have brought Secord's way of conceptualizing book history back into prominence. There was a discussion on the listserv SHARP-L in January, about the idea of whether it is useful to think of a study of a single work as a 'biography of a book'. Secord tells us explicitly, and on the second page of *Victorian Sensation* that he isn't writing the biography of *Vestiges*. He suggests that the term might be appropriate for Robert Darnton's 1979 study, *The Business of the Enlightenment* (about the publishing history of *l'Encyclopédie* in 18th-century France). Darnton's book, like his model of a 'communication circuit', is focused on authors and publishers, and on the tradespeople whose labour facilitates their agency. The reader is identified as a force, and as a vital connecting link between author and reader, but the concept is not fully worked out – perhaps because the

book is conceptualized as a single unit with a complex past, not as an evolving text/object with a multiplicity of futures. My own objections to the 'biography' metaphor are feminist and genealogical – and just plain perplexed: If it's a biography, then who are the progenitors of a book, and how is the moment of conception characterized (and what if it wasn't consensual?); what about midwifery and wet-nursing, child-rearing and parenting in adolescence? Does a book have siblings and cousins, and are those its variant editions, issues, or states? Can a book generate its own offspring? And so on and so on. Darnton wisely didn't stretch the metaphor too far, and in the 1980s, those early days of 'book history' emerging into the English-speaking academic world, perhaps it served its purpose. For Secord's ambitious research two decades later, a fresh image was needed. And, two decades further on, scholars are finding ways of focusing on the experience of readers, and the ways that books travel through time and space, as their texts, paratexts, marketing, even authorship, transform in readers' hands. Jim Secord, coming to book history indirectly through the history of science, introduced us to one forgotten book, and gave us a way to think about all the others.

Lorraine Daston
The Very Model of Historian Sensational

For Jim Secord,
who taught me the difference between vampires and zombies and much, much else,
with admiration and affection,
Raine

(To be sung to the tune of 'The Major-General's Song' from Gilbert and Sullivan, *Pirates of Penzance*, premiere New York, 1879.)

Prestissimo e fortissimo

I am the very model of Historian Sensational
A title given only when Muse Clio's quite elational
Her sisters wither'd Misses Geology and Botany
Read treatises on paper that I know to be quite cottony
It's wood pulp and the steam press, the railway and the post
That sell books scientific like hot buttered toast.

Chorus of Modern Muses: Like hot buttered toast!

I am the very model of Historian Sensational
I've followed up the spats of all those savants confrontational,
I know about intrigues and all the battles Murchinsonian
I quote with ease and grace apt couplets Tennysonian
Cambrian, Silurian, and strata fossiliferous

I know the twists and turns of disputes quite vociferous.
Chorus of Fractious Geologists: Disputes quite vociferous!

I am the very model of Historian Sensational,
I'm expert in all mysteries of secrets publicational
No *Vestiges* elude my search, editions I have summed up too,
No Darwin jot, no Darwin blot without its footnote (maybe two),
But also pigeons almond-toned and pamphlets of the bold S-DUK
And don't forget the ravings of the transcendental Teufelsdröckh.

Chorus of Victorian readers: The transcendental Teufelsdröckh!

I am the very model of Historian Sensational
I teach that knowledge, science too, is very circulational
At meetings and in letters, in pictures and in pubs,
The Crystal Palace poultry show, the gentlemen at clubs,
At sessions of the British-AAS and circles conversational,
The chatter and the banter can be so transformational.

Chorus of Globe-trotting Historians: So transformational!

All in unison: He is the very model of Historian Sensational,
We thank him for his work so grandly inspirational!

Mary Brazelton

If Books Could Kill

The Shanghai Library has a delightfully time-consuming system for book retrieval. While waiting for the requested texts to complete their journey on a mechanical carousel down to the lobby, there is always time to wander around in a state of pleasant anticipation, wondering what the books I've waited a year to read might hold within their pages, browsing the shop advertising Shanghainese literature in the lobby, and generally malingering. On a recent visit in the summer of 2019, I noticed a new addition in a corner of the main hall: disinfection machines for book return. Readers placed their books in the microwave-like sterilizers and then waited while a fan blew the pages open, exposing them to UV light before they were sent back to the stacks.

Such a machine struck me as unusual at the time. Now, of course, it is entirely sensible. As I write, the outbreak of a global pandemic has created a panoply of dilemmas for librarians around the world who are now tasked with devising means for readers to pass through common areas, access texts, and read them without risking infection. Although it is not clear how effective UV light exposure might be in sterilizing texts, some libraries have adopted it as a precaution against transmission of SARS-CoV-2.[1]

Anxieties about deadly books have a long history.[2] In late nineteenth-century Britain and North America, these fears took on new specificity, as discourses of sanitary science and emerging theories about microorganisms as the cause of disease gave rise to a

1. 'Banyumas Library uses UV light to sterilize books,' *Jakarta Post,* 18 June 2020, https://www.thejakartapost.com/life/2020/06/18/banyumas-library-uses-uv-light-to-sterilize-books.html; 'UV Book Sterilizers,' Education University of Hong Kong Library, https://www.lib.eduhk.hk/book-sterilizers/.

2. In the eighteenth century, for example, the fear that books could be contagious helped foster novel understandings of reading in the Anglophone world as a process that evoked personal sympathies. Annika Mann, *Reading Contagion: The Hazards of Reading in the Age of Print* (Charlottesville, VA: University of Virginia Press, 2018).

'gospel of germs' that suggested the potential of household objects like books to serve as disease-carrying fomites, and the need for hygienic intervention to neutralize this danger.[3] Concurrent movements to establish and support public libraries, however, created new communal spaces in which germs could lurk. The engagement of public reading with public health provoked the development of a range of book disinfection technologies. This piece explores how, over a century ago, libraries and the books that inhabited them came to appear deadly—and then were rendered safe again. Although the discussion focuses on the Anglophone origins of crisis, it also includes observations from China, where discourses of hygiene were taking root in epidemic-stricken treaty-ports at the same time that a number of public libraries were established following the 1905 abolishment of the imperial examination system.[4]

Defining the Problem

In the United States, what came to be called the 'great book scare' of the late nineteenth century identified the printed page as a means of infectious disease transmission.[5] In Anglo-American contexts, the material trappings of middle-class life took on a suspect appearance in light of the revelation that any innocent-looking surface might in fact harbour germs. Books were no exception. An early inquiry was initiated in 1879 by a Chicago librarian who 'knew of no instance where disease had been communicated by a book; but as it was known to be transmitted by clothing, by toys, and even by the air, he asked: 'Why not by books?"[6] The 1895 death from tuberculosis of Jessie Allen, a librarian in Omaha, Nebraska, sparked several articles in the American press considering the question of whether books might transmit this disease.[7] 'If a person sneezes or coughs, he is very apt to hold his book in front of him,' claimed one 1911

3. Nancy Tomes, *The Gospel of Germs: Men, Women, and Microbes in American Life* (Cambridge, MA: Harvard University Press, 1999); Graham Mooney, *Intrusive Interventions: Public Health, Domestic Space, and Infectious Disease Surveillance in England, 1840-1914* (Rochester, NY: Boydell & Brewer, 2015).

4. Ruth Rogaski, *Hygienic Modernity: Meanings of Health and Disease in Treaty-port China* (Berkeley and Los Angeles: University of California Press, 2004); Sharon Chien Lin, *Libraries and Librarianship in China* (Westport, CT: Greenwood Press, 1998), 1-10.

5. Joseph Hayes, 'When the Public Feared that Library Books Could Spread Deadly Diseases,' *Smithsonian Magazine*, 23 August 2019. https://www.smithsonianmag.com/history/during-great-book-scare-people-worried-contaminated-books-could-spread-disease-180972967/

6. William Poole, 'The Spread of Contagious Diseases by Circulating Libraries,' *Library Journal* 4 (July-August 1879): 258.

7. 'Spreading Disease by Books,' *Memphis Appeal*, 17 November 1895, p. 18; 'Not long ago the librarian of Omaha,' *Daily Picayune* 1 October 1895, p. 4.

piece positing how books might transmit germs, and 'many people persist in the uncleanly habit of moistening their fingers in their mouths when turning the leaves.'[8]

The specter of contagious books collided with Victorian cultures of illness to give rise to new fears. If reading was a classic pastime for the invalid, then couldn't any book in a library have recently left a virulent sickbed? The question was pressing because libraries were on the rise: in the late nineteenth century, the public library movement to establish a number of state-run, tax-supported institutions gathered pace in the United States. In Victorian Britain, the Free Libraries Movement advocated for the establishment of public libraries without subscription fees to expand their accessibility to working-class readers. The news that books could serve as vectors of infectious disease connected concerns about the risk of moral degeneration that such readers embodied with fears of physical contamination.[9] An 1893 *Annals of Hygiene* article synthesized these concerns, calling for 'a higher degree of moral health in matters like these, so that one would no more allow a book used by a scarlet fever patient being put back into a library for others to use than he would steal a purse.'[10] However, some library advocates perceived efforts to label books as fomites as attacks on their movement itself. One such exponent, Thomas Greenwood, declared, 'The statement [that books transmit contagion] is monstrously untrue, and invariably emanates from the avowed enemies of these institutions.'[11]

Research to determine and quantify the pathogenic qualities of books therefore had significant stakes, but yielded ambiguous results. Many guinea pigs were sacrificed to the cause of determining just how serious a threat books posed. An early effort began in 1879, when William Poole, first librarian of the Chicago Public Library, wrote to colleagues and medical authorities to survey their experiences of pathogenic books. His research uncovered only a handful of cases in which such infections (of smallpox and scarlet fever) might have occurred.[12] In 1895, a more systematic study was undertaken; two Paris physicians soaked books from hospitals in broth, then cultured it and used it to

8. Leonard B. Nice, 'The Disinfection of Books,' *Bulletin of the Medical Library Association* 1 (1912): 61-66.

9. Lewis C. Roberts, 'Disciplining and Disinfecting Working-Class Readers in the Victorian Public Library,' *Victorian Literature and Culture* 26,(1998): 117-44; Dee Garrison, *Apostles of Culture: The Public Librarian and American Society, 1876-1920* (New York: The Free Press, 1979); Leah Price, *How to Do Things with Books in Victorian Britain* (Princeton, NJ: Princeton University Press, 2014), 194.

10. Journal of Hygiene, 'Transmission of Scarlatina by Books,' *Annals of Hygiene* 8 (1893).

11. Thomas Greenwood, *Public Libraries: a history of the movement and a manual for the organization and management of rate-supported libraries* (London: Cassell, 1894), 370.

12. Gerald Greenberg, 'Books as Disease Carriers, 1880-1920,' *Libraries & Culture* 23 (1988): 282-83.

inoculate guinea pigs. They found that this method successfully induced streptococcus, pneumococcus, and diphtheria—but not typhoid fever or tuberculosis.[13] In Germany in the same year, Alexander Lion found that a library novel could harbour as many as 3,350 bacteria per 100 square centimetres, and bookbindings as many as 7550 per 100 square centimetres. Six years later, Arthur Krausz found that cultured bacteria could remain active on books kept at room temperature for up to thirty-one days, in the case of Staphylococcus, and ninety-five days in the case of typhoid.[14] Medical opinions grew more optimistic with time, however. In 1915, Henry Kenwood, Chadwick Professor of Hygiene at the University of London, and student Emily Dove demonstrated that 'there is probably no material risk' for the transmission of tuberculosis via books, but that precautions of book quarantine and/or disinfection were advisable.[15]

The fear of books' pathogenicity was not limited to the Anglophone world, although the particular combination of moral and medical panic they incited in the library setting did not necessarily travel in the same way. In China, a 1903 article in *Dalu bao*大陸報, a bimonthly magazine established in Shanghai by students returned from Japan, suggested the dangers of contaminated books. It began by noting that 'a school in the American state of Kentucky mostly used old books; impetigo [a highly contagious skin disorder] and other infectious diseases slowly spread through the whole school. Every physician made an effort to investigate, and came to understand that the cause of disease was from using old books.'[16] The danger of books connected to broader efforts to inculcate the lessons of sanitary science, in which medical experts stated 'clothing, books, and toys could serve as vectors of disease.'[17] The fear was sited in the United States, but it was presented as inherently relevant to China and especially Shanghai, a treaty-port then flourishing as the epicentre for an upsurge in industrial printing ventures—and also prey to tuberculosis, cholera, and other infectious diseases.[18]

13. Léon-Joseph du Cazal and Louis Catrin, 'De la contagion par le livre,' *Annales de l'institut Pasteur* 9 (1895): 865-76.

14. Nice, 'The Disinfection of Books,' 61.

15. Henry Kenwood and Emily L. Dove, 'The Risks from Tuberculosis Infection Retained in Books,' *The Lancet* 186 (10 July 1915): 66-68.

16. 'Jiu shu wei chuanranbing zhi meijie' 舊書為傳染病之媒介 [Old books as a medium for infectious diseases], *Dalu bao* (1903): 71.

17. 'Jiu shu wei chuanranbing zhi meijie.'

18. Christopher Reed, *Gutenberg in Shanghai: Chinese Print Capitalism, 1876-1937* (Vancouver: UBC Press, 2004); Chieko Nakajima, *Body, Society, and Nation: The Creation of Public Health and Urban Culture in Shanghai* (Cambridge, MA: Harvard University Press, 2018).

The Prospect of Rehabilitation

Although the actual risk of disease transmission posed by circulating books remained unclear into the early twentieth century, perceptions of this possibility gave rise to a number of proposals for its prevention. To librarians, readers endangered books, not the other way around. Numerous proposals therefore sought to monitor and limit the circulation of books to the sick as a means of avoiding contamination. In Britain in 1896, Greenwood presented guidance that libraries should enact byelaws prohibiting the lending of books to families stricken by contagious disease.[19] In 1907, the Public Health Act in England was updated to prohibit such a scenario, with a fine of up to 40 shillings: 'If any person knows that he is suffering from an infectious disease he shall not take any book or use or cause any book to be taken for his use from any public or circulating library,' the legislation specified.[20] Nonetheless, these methods had their limits. In 1897, *The Library,* the journal of Britain's Library Association, ran a piece advocating libraries' outright obliteration of 'suspected books,' saying, 'The only effective means of allaying the public uneasiness is to destroy books found in infected houses.'[21]

The logistical complexities of book quarantines, and the risk of asymptomatic carriers of disease who might escape these methods, gave rise to proposals for means of disinfecting books themselves. These procedures generally entailed exposing the books to chemicals and/or temperatures that could deactivate pathogens; a chief dilemma was how to destroy the germs and not the books. Envelopment in hot steam was one option, although it warranted material transformation of the books themselves. American physiologist Leonard Nice recommended that 'all school and library books should be stitched instead of glued and have as cheap covers as possible so that steam disinfection would not injure them very seriously.'[22] He reported experimental success using moist hot air to disinfect approximately 300-400 books at a time using a double-walled iron cabinet in which the temperature reached 78-80 degrees Celsius and 30-

19. Thomas Greenwood, *Public Libraries: a history of the movement and a manual for the organization and management of rate-supported libraries* (London: Cassell, 1894), 371.

20. Arthur E. Clery and J.C. McWalter, *The Public Health Acts Amendment Act, 1907, with Explanation, Full Commentary upon the Sections, and Summary of Recent Public Health Decisions* (Dublin: Edward Ponsonby, 1908).

21. 'Infectious Diseases,' *The Library* 9 (1897): 34.

22. Nice, 'Disinfection of Books,' 62. For more on the relationship between cheap production and useful knowledge, see James Secord, 'Progress in print,' in *Books and the Sciences in History,* edited by Marina Frasca-Spada and Nick Jardine, 369-89 (Cambridge: Cambridge University Press, 2000), 384-86.

40% moisture for 32 hours.[23]

Making books more cheaply did not only make it easier to disinfect them, but was also consonant with the broader aim of expanding access to reading. A 1902 *New York Herald* article commented on the experiments of Krausz to determine the pathogenicity of books, claiming that they were done at the behest of Hungarian booksellers; Krausz recommended disinfection by injecting steam for forty minutes within a closed container. The article noted that outright destruction of books 'would cause great inconvenience, seeing that only 18.5 per cent of the boys in certain classes at Budapest had new books,' suggesting that book disinfection could materially support the expansion of access to education by protecting the second-hand book market. The article concluded quixotically, 'Every reader should have a cheap disinfecting apparatus for his own use.'[24]

More invasive chemical methods were also explored. In 1888 in Sheffield, books were heated in an oven to 100 degrees Celsius and then exposed to carbolic acid vapour. The Preston Public Library manufactured a metal fumigator cabinet, four to five feet high and wide, in which books were shut with compound sulphurous acid gas.[25] Formalin and formalin vapour were used widely because it was broadly accepted as a disinfectant, although studies yielded mixed views on its effectiveness in killing bacteria.[26] A 1901 article in the *Lichfield Mercury* recommended the widespread use of formaldehyde, saying, 'Libraries everywhere could fix up a disinfecting room at small cost, send every book there as soon as it was brought in by the person to whom it had been lent, disinfect it with formaldehyde vapour, and return it to the shelves, to be again lent out.[27]

In China, strategies for disinfecting books appeared in greatest frequency not in the 1900s or 1910s, but rather a few decades later, during the period of state reconstruction when Chiang Kai-shek's Nationalist Party ruled the Republic of China.[28] One discussion

23. Nice, 'Disinfection of Books,' 64.

24. 'Infectious Properties of Books,' *New York Herald* [European Edition], 24 August 1902, p. 3.

25. Greenwood, *Public Libraries,* 371-72; Greenberg, 'Books as Disease Carriers,' 283.

26. Nice, 'Disinfection of Books,' 62.

27. 'Dangers of Public Libraries,' *Lichfield Mercury,* 10 May 1901, p. 6.

28. At least, this is the case for the limited databases to which I have access. In addition to the work discussed in the following paragraph, see also 'Guanwu: guanxun linzhao: shuqi zhong shuku zhi qingli yu xiaodu' 館務：館訊鱗爪：暑期中書庫之清理與消毒 [Small scraps of library news: cleaning and disinfecting library collections during the summer vacation],' *Zhejiang shengli tushuguan guankan* 浙江省立圖書館館刊 4 (1935): 177; 'Guowai xiaoxi: faren gaosen shiyan tushu xiaodu fangfa' 國外消息：法人高森試驗圖書消毒方法 [Foreign news: The Frenchman Ivan Gaussen's methods of experimental book

of library practice in the northern treaty-port of Tianjin is especially instructive. The article asserted that examining the health of readers before allowing them to borrow books was 'cumbersome and unrealistic.'[29] Instead, it suggested a number of practices to prevent infection. The article recommended sterilizing, using unspecified methods, all books entering the library and those that had 'come into contact with' infectious disease; burning and replacing those books which were lent and borrowed at such a frequency that they were 'contaminated by thick filth from hands'; recording the personal details of library borrowers to facilitate what we would now call contact tracing; and disinfecting books during annual 'book exposure,' a customary practice of placing books out in the sun every year around the time of the Qixi Festival, occurring on the seventh day of the seventh lunar month.[30] In this way, librarians attached new hygienic meanings to longstanding practices.

Recounting various acts of violence committed against books, even if in the name of public health, may not be the most appropriate way to honour the career of an eminent scholar of print cultures of science. Yet I write at a moment when the future of the book feels uncertain, thanks in part to our pandemic predicament. The past few years have seen important efforts to move library collections online, where they might reach broader audiences. More and more, physical books have taken on connotations of luxurious inconvenience in an increasingly digital world. Now that their pathogenic character has been reawakened, they appear especially vulnerable. It has been reassuring, then, to read of the ways in which hygienic interventions have protected the circulation of books throughout epidemics. With any luck, it means I can be back in the Shanghai Library soon enough, waiting to read once again.

disinfection], *Zhonghua tushuguan xiehui huibao* 中华图书馆协会会报 14 (1940): 31.

29. Xiao Gang 蕭綱, 'Tushuguan weisheng' 圖書館衛生 [Library hygiene], *Tianjin shi shili tongsu tushuguan yuekan* 天津市市立通俗圖書館月刊, no. 4-6 (1934): 2-4.

30. The origins of this practice are obscure, but exposing books to the sun in summer was a customary practice in order to stay the ravages of bookworms; records from the Song dynasty, for instance, show that book collectors and official libraries 'aired their books' every year. Thomas H.C. Lee, 'Books and Bookworms in Song China: Book Collection and the Appreciation of Books,' *Journal of Song-Yuan Studies* 25 (1995): 214.

Nick Hopwood

Embryos and Embarrassment

> Gordon knew her type at a glance, but he was too preoccupied to care. 'Have you any book on gynaecology?' he said.
>
> 'Any WHAT?' demanded the young woman with a pince-nez flash of unmistakable triumph. As usual! Another male in search of dirt!
>
> 'Well, any books on midwifery? About babies being born, and so forth.'
>
> 'We don't issue books of that description to the general public,' said the young woman frostily.
>
> 'I'm sorry—there's a point I particularly want to look up.'
>
> 'Are you a medical student?'
>
> 'No.'
>
> 'Then I don't QUITE see what you want with books on midwifery.'
>
> George Orwell, *Keep the Aspidistra Flying* (1936)

As unlike Orwell's librarian as it is possible to be, Jim Secord has highlighted obstacles to reading and himself worked to break the barriers down. Over the years he has given me many books, as eye-opening recommendations and as paper gifts. The most precious, *Victorian Sensation*, showed how to investigate the subtleties of communication. Much of my research has been driven by a desire to apply the approach that Jim pioneered for reading to the viewing of book illustrations and other visuals. This was an easy step to take, because he has long led by example also in treating pictures as material objects.

It has been a special pleasure to learn with Jim about their roles in 'communicating reproduction.'

Illustrations of embryos and fetuses are rewarding to study because such strong claims have been made for and against them in debates over human origins. The hardest question these images invite is one that historians too often dodge: how did the effects of viewing—the powers of pictures to alter viewers and of spectators to shape what they saw—change over time? Think of the young German in the 1880s who received Ernst Haeckel's Darwinist grids as crucial evidence during a crisis of faith or the pregnant American in the 1980s confronted with a worrying ultrasound scan—but also of the medical student bored to tears.

Looking back at how these images went from esoteric concerns to matters of wide and often deep personal significance, the first half of the twentieth century stands out, because visual inequality was then so extreme. Campaigns for birth control, maternal health, and infant welfare took embryological visions to millions, now also in works by women for women, as pregnancy itself was made more visible and respectable. But association with sex and (illegal) abortion kept human embryos out of the schools and in titillating wax museums. Access could still be a struggle and, as pictures multiplied, so did the potential for embarrassment such as the librarian meted out.

Adults found embryology particularly uncomfortable when their interest revealed too much about themselves. The richest evidence comes from novelists who marked news of a possible pregnancy with scenes of unmarried women and men risking humiliation to seek out, look at, and muse over illustrations. My examples both represent idealizations of middle-class journeys from ignorance to knowledge, and from panic to the conventional decision to reject abortion, but otherwise contrast.

The chemistry student Helene Willfüer was the eponymous 'new woman' heroine of Vicki Baum's 1928 bestseller. Anxious that she was pregnant, Helene went from some hard trampolining to a secondhand book dealer she knew. Pretending to want a chat, she led the conversation from fellow students' exams to her own ignorance and wish to browse. 'Yes. Medical—but something very popular, nothing highbrow, no science. The likes of me does not know the simplest things. Something like *Anatomy of Woman*; or *The Life of the Child before Birth*.' The 'astonished' dealer piled up some books and she pored through them with 'burning head' and 'distracted hands.' 'She is ashamed, she is ashamed to death.' While an assistant stared, her acquaintance discreetly left her alone, then let her borrow the most promising tome.

Helene hurried with the book to a bench by the river and turned to 'The Life of

the Child before Birth.' Some resemblance to gynaecologist Wilhelm Liepmann's *Die Frau. Was sie von Körper und Kind wissen muß* (Woman: What she should know about her body and child) suggests that she found crude cuts of eggs in a tube and the uterus, one of the 'little embryo' in its membranes, and wombs sectioned to show the fetus growing inside. This left Helene more agitated than ever. A hundred pages and several months later, an attempt to concoct an abortifacient had failed and she was reconciled to her pregnancy. She spent 'a long, very quiet hour' in a university collection looking at 'the small embryos,' which 'sat or floated so still in their glasses of spirits. How wonderfully formed they are, these small beings, how these tiny limbs strive for development, for formation, for perfection,' Baum had her reflect. Baum stressed the goal not the imperfection, let alone the animality, of the forms en route.

In *Keep the Aspidistra Flying* (1936), Orwell's sardonic critique of the stultifying effects of commerce on middle-class life, the struggling writer Gordon Comstock (not, as far as I know, a play on the name of the US postal inspector and anti-vice campaigner) was wrestling with the pregnancy of his girlfriend Rosemary Waterlow, but had 'only vague and general ideas of what pregnancy meant.' Passing a public library, he went to the desk, where Orwell has him see the librarian through misogynist eyes: 'a university graduate, young, colourless, spectacled, and intensely disagreeable.' Whereas nice girls and women were assumed to be sexually ignorant, Orwell presented a sexless woman as trying to keep the secrets of her sex from men. Eventually, she accepted Gordon's half-truth that 'my wife's going to have a baby' and 'neither of us know much about it.' She left him at a small table with 'two fat books in brown covers,' but he 'could feel her pince-nez probing the back of his neck.'

Gordon found 'acres of close-printed text full of Latin words. That was no use. He wanted something simple—pictures, for choice. … He came on a print of a nine weeks' foetus. It gave him a shock … a deformed, gnomelike thing, a sort of clumsy caricature of a human being, with a huge domed head as big as the rest of its body.' Not 'wonderfully formed,' but 'monstrous,' with 'one hand, crude as a seal's flipper,' over its face, 'fortunately, perhaps,' and 'little skinny legs, twisted like a monkey's with the toes turned in.' Yet it was 'strangely human.' 'He had pictured something much more rudimentary; a mere blob of nucleus, like a bubble of frog-spawn. But it must be very tiny, of course. … Length 30 millimetres. About the size of a large gooseberry.' In case 'it had not been going on quite so long as that,' Gordon turned back 'and found a print of a six weeks' foetus. A really dreadful thing this time—a thing he could hardly even bear to look at.' 'There was nothing you could call a face, only a wrinkle representing

the eye—or was it the mouth? It had no human resemblance … it was more like a dead puppy-dog.'

Earlier in the novel, Gordon had thought of his own unsuccessful poems as 'each like a little abortion in its labelled jar,' his 'lifeless' work '[d]ead as a blasted foetus in a bottle,' because soulless capitalism left only '[d]ead people in a dead world.' Now, as he 'pored for a long time over the two pictures,'

Their ugliness made them more credible and therefore more moving. His baby … had been a reality without visual shape … here was the actual process taking place … the poor ugly thing … that he had created by his heedless act. Its future, its continued existence perhaps, depended on him. Besides, it was a bit of himself—it WAS himself. Dare one dodge such a responsibility as that?

Gordon went back to the advertising agency he had left to follow his literary dreams and married Rosemary. The manuscript of his poems, 'the sole fruit of his exile, a two years' foetus which would never be born,' he stuffed down a drain, thus aborting not the pregnancy but the work. Gordon was determined to turn an ugly fetus into 'his baby,' which he understood as identical to himself and a product of his love for Rosemary, who in the closing scene perhaps reasserted the primacy of women's haptic knowledge by feeling it move before he could hear anything.

Helene and Gordon found nothing new—except to them. Their imagined experiences indicate how difficult viewing could be in an age when drawings of embryos were, in theory, there for the seeing in millions of books. In other contexts, a couple of standard line drawings might have seemed underwhelming at best. At the right time, looking could shape in detail the most personal reflections while prompting aesthetically divergent reactions. This reassures the historian of the powers of images and of viewers. It invites further work along the lines that Jim mapped out.

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VISIONS

Emma Spary
A Vision of Friendship

After years spent working elsewhere, the uniqueness of the Department of History and Philosophy of Science stands out, to me, in the way its community of scholars sustains a disciplinary identity that other institutions lack through the exercise of particular forms of sociability. Chief among these is the practice of attending big conferences in the discipline *en masse*. Large numbers of HPS folk, from professors down to graduate students, faithfully attend these events year on year, just as many turn out to be on the departmental photograph. Over my own early career at HPS, people came and went, but there was a continuity to these collective events which my subsequent institutional experience has never matched. I want to write about Jim's central role in this sociability and the way in which it has informed both his work and his life, because it seems to me that it is precisely this vision—one that he both embodies and studies—which the Department will have to work hard to preserve.

One event that stands out for me in particular is the Three Societies conference of August 2004, a mega-meeting that fused the British Society for the History of Science, the American History of Science Society and Canada's Society for the History and Philosophy of Science, aka Société Canadienne d'Histoire et de Philosophie des Sciences. Jim had been invited to be the keynote speaker at the conference in question, which had as its theme 'Circulating Knowledge'. For obvious reasons, such a large conference had a global importance within the field, and a global representation of speakers. Ever attuned to the direction of travel, Jim titled his talk 'Knowledge in Transit'. 'How and why does knowledge circulate?', he asked us. 'How does it cease to be the exclusive property of a single individual or group and become part of the taken-for-granted understanding of much wider groups of people?' I recall that later, at the drinks party after the keynote, Jim elaborated on his suggestion in the talk that

the 'social turn' in history of science had so far failed to generate anything like a 'big picture'—that is to say, a larger methodology upon which it would be possible to hang new areas of research and which could eventually (as we all hoped) replace the older conventional models like the Scientific Revolution, the valorisation of progress and great men that still dominated much historical and public understanding of our discipline.

I welcomed what he was saying, but I had my doubts about his proposed solution. I remember that I was somewhat concerned that embracing the global as a methodological principle might mean that it became very hard, nay impossible, to identify what could or should count as 'science'. Also, I worried that the suggestion to expand outwards risked diluting the close-up, rigorous, highly-focused kind of work that I thought we needed to do in order to retell existing stories of the history of science in new ways, exactly as Shapin and Schaffer had done with *Leviathan and the Airpump*. I wasn't convinced that we needed a new Big Picture—and I think I told Jim so at the time...something he took in very good part. Nearly twenty years on, I have no hesitation in pointing out that it is clear Jim's vision was entirely justified. The text of his keynote address, which he published in *Isis* (2004, 95: 654–672), has become a widely-cited roadmap for the new, connected history of science. Thinking globally has driven a vital shift in all of our work; linking questions of sociability, interpretation and communication up with problems of the translation of knowledge over distance, and the conditions of interaction of discrete knowledge communities, has created a vast and fruitful new methodological terrain, busily being populated by a new generation of outstanding young scholars as I write.

In effect, a vision of the field in terms of communication and circulation has never been very far from Jim's scholarly practice in ordinary life. This vision isn't just ideal, it's deeply practised and imbued with his own commitment as a person and a scholar. Throughout my entire career in this field, I have known Jim and Anne's house as a haven of intellectual exchange and support for junior and senior scholars alike. They know everyone, and everyone knows them. Particularly within the UK, the historian of science who hasn't, at some time or other, been invited to their house on Searle Street for dinner, received support for their job application or publication, or benefited in other ways from the immense energy the two of them devote to keeping the field alive, must now be an endangered species. So far from becoming a 'turboprof' who was always flying off to one honorarium-rich lecture after another, Jim has always put the discipline first; he has given far more back than he has received, and not only to famous

names but to all of us. This happy reciprocity is facilitated by an omnivorous knowledge of people working in the field in institutions around the world. He can tell you who is at which university, and how long they have been there, as I know from working with him as a co-editor. His knowledge both of the discipline and of new research directions and interesting developments within it is encyclopaedic—or should I say global? For both adjectives come to mind to designate Jim: a fitting vocabulary for someone who has worked on everything from Victorian soirées and the Giant's Causeway to paper-making and dinners inside dinosaurs. (He will doubtless dispute this assertion, but I know it to be true.) He is equally expert on the publishing industry, and gives his advice freely on questions such as securing contracts, or how to fight a corner when it comes to design, images and other aspects of book production. His historical interest in the material culture of the book and of paper thus serve him to good effect in his own publishing activities. But above all, he never forgets that ultimately the book is not a thing-in-itself, but a mode of communication—so that the *use* of books is the way in which the attention paid to the making of books produces change. Coupling larger questions of movement and the global to more local questions such as how to produce books, and what happens to them afterwards, is precisely where history of science, seemingly more than any other discipline, has produced its most potent historiographical toolkit over the last two decades.

Jim's vision, from start to finish, has always been a global one, in both literal and figurative senses: he began with the history of the planet itself, later moving to the history of communications at both a local and a global level. But from the large scale to the small, his vision is rooted in exchanges between individuals, forming a continuous fabric of knowledge-making. At the heart of his research is a vision of sociability; and at the heart of his sociability, a vision of friendship. This is doubly precious. Near the end of 'Knowledge in Transit', Jim observes that 'to make knowledge move is the most difficult form of power to achieve'. If there is one thing of which we can be certain, it is that he has himself succeeded in this difficult accomplishment: his books are widely read and highly esteemed. But I know Jim's modesty well enough to be pretty certain that his main wish, on retirement, will not be that his own fame should grow, but rather that the history of science itself, as a discipline, should continue to move and develop in interesting ways. I am quite sure he will remain a central participant.

Jane Munro

Headlights: Jim Secord, the Curatorial Turn

Jim's distinguished contributions to the history and philosophy of science are eloquently laid out in this celebratory volume by authors better equipped than the present. These rightly trumpet his intellectual range and multiple attainments in the field of Victorian science and culture, and pay tribute to the perpetual motion of his restless curiosity. Taking its lead from Jim's key publications, the very framework of this homage also celebrates his formidable gifts as a communicator, always combining a depth and granularity of knowledge with a lightness of touch, a flicker of quirk: 'impact' comes naturally to a scholar of Jim's ilk. Together, they speak of a drive – a deep-seated passion – to understand the mechanisms of knowledge and its dissemination, in particular, of course, through the printed book and the written word.

Amidst his many glittering achievements, there is however one aspect of Jim's endeavour that remains comparatively overlooked: his flare as a curator and sensitivity to the particularities of exhibition-making as a mode of communication. No doubt this is partly innate. As a collector himself and a scholar with an irrepressible desire to share, he has a track record of being attracted to the visual 'show and tell', notably organising displays at the Whipple of his incomparable collection of Darwiniana, a.k.a the 'Tat [sic] Gallery'. But the exhibition *Endless Forms: Charles Darwin, Natural Sciences and the Visual Arts*, held at the Fitzwilliam Museum and Yale Center of British Art to mark the Darwin bicentenary in 2009 and co-curated by myself and Professor Diana Donald, offered Jim an altogether bigger platform on which to explore his intuitive gifts, and he threw himself into every aspect of the project with gusto.

Things started conventionally enough with a colloquium in 2005. Papers were presented and discussed by scholars from a range of disciplines, of course including Jim – soon to become Director of the Darwin Correspondence Project – and also

Anne, who was herself a formative influence on the project from its early stages and remained a staunch supporter throughout. It was our good fortune that Jim agreed to act as history of science advisor, bringing intellectual rigour and expertise in Darwin's life and work to the evolution of both exhibition and the accompanying publication. Involving both adaptation and natural selection – and the occasional casualty – the process of shaping an exhibition may have seemed familiar enough. Throughout, it was punctuated by animated café conversations that must at times have disturbed – or at best bewildered – the more sedate of the Fitzwilliam's visitors for whom the wide-eyed excitement generated by barnacles and pigeons may not have seemed immediately obvious. Anyone familiar with Jim's effervescing imagination and infectious enthusiasm will be able to picture the scene …

'Advisor' rapidly became a thin-lipped misnomer for the role that Jim came to play in the project, and he soon developed an apparently insatiable urge to engage with every aspect of exhibition-making. Undoubtedly his biggest coup in terms of securing exhibits – and very certainly the one that gave him most personal pleasure to see hanging in the august surroundings of the Fitzwilliam – was Robert Farren's large-scale oil painting, *Duria Antiquior, a more ancient Dorset* (1850; Sedgwick Museum, figure 1, facing), the first depiction of prehistoric life to be based on fossil evidence, a composition derived from a watercolour painted twenty years earlier by the geologist and palaeontologist, Henry de la Beche. Although the painting effectively moved only a few hundred metres from lending to borrowing venue within Cambridge, it resonated with new force in the opening section of the exhibition devoted to 'The History of the World', where it held its own alongside such nineteenth-century painter-luminaries as William Dyce, Thomas Moran and J.M.W. Turner: Jim's advocacy for the inclusion of this extraordinarily potent work was inspired. The passing of time and the context of this publication *entre amis* might allow us to relinquish Jim's original request for anonymity to acknowledge that he also became a lender to the exhibition, generously making available key publications such as Charles Lyell's *Principles of Geology* (1830) from his own library. It should be noted for the record that he kindly agreed to forego transport and courier per diem expenses, thereby saving the exhibition budget in the region of £15.

More than a nod must be made, too, to Jim's support in helping the museum to raise the funds to pay for what was at the time the most ambitious exhibition the Fitzwilliam had ever staged, with over one hundred and fifty loans drawn from collections throughout Europe, the United States and Mexico. His feedback on funding applications proved

invaluable, certainly contributing to their eventual success: just one small incidence of another of Jim's highly developed academic skills, that of grant-capture supremo!

In the lead-up to the exhibition and throughout its duration, Jim remained the most engaged of collaborators, and also one of the most visually alert. Juxtapositions of dramatic taxidermy representing two combatting falcons by the ornithologist John Hancock (1850) and Hubert Herkomer's painting of a striking worker and his family during the 'long dark winter' of 1891 was not lost on him, anymore than the contextualisation of Degas's drawings and sculptures of ballerinas and female café-concert singers in the light of the artist's reading of Darwin's *The Descent of Man*: shades fallen from eyes, Jim claimed he would never look at Degas's work in the same way again. It was a pleasure to see audiences hang on Jim's every word in in-situ in gallery talks, and over a decade on, the podcast on 'Darwin and the Ancient Earth: Dinosaurs and the 'Deep Past' in the 19th-Century Imagination' which he recorded as part of an accompany series by distinguished biologists, philosophers, historians and literary scholars remains one of the most frequently downloaded.

Figure 1. Michael Jones, Fitzwilliamm Museum Cambridge.

No detail of the wider curatorial remit escaped him, from spotting the inevitable unfortunate typo on an exhibition label, to advising on the choice of books to be stocked in the shop. It is a matter of regret that the museum did not follow through on Jim's particularly brilliant suggestion of adorning the donation boxes with the most apposite of quotes by Darwin: 'Hard cash paid down, over and over again, is an excellent test of inherited superiority' (*Variation of Animals and Plants under Domestication*, 2 vols, (London: John Murray, 1868), 1:3)!

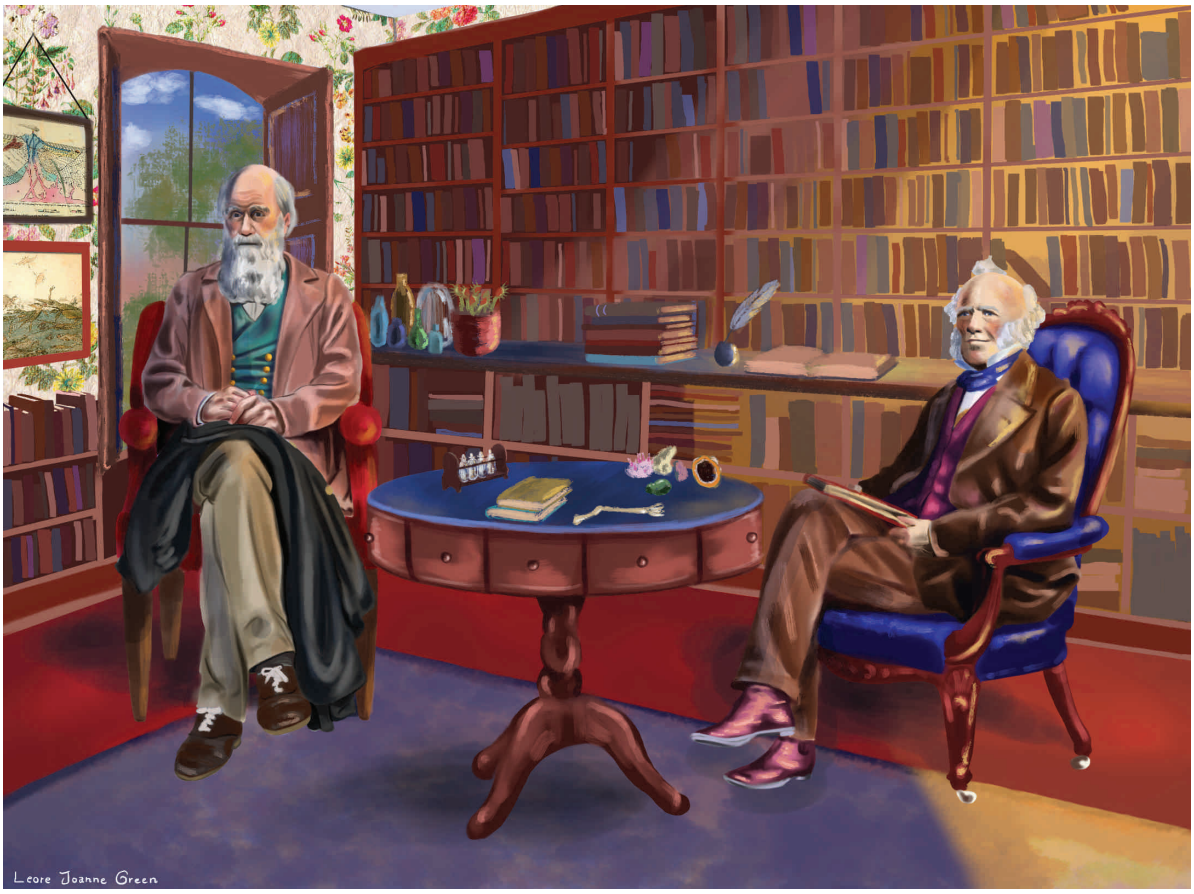
As the exhibition came to the end of its twelve week run (twelve weeks, for 4 years' plus preparation?) Jim spent the best part of a morning taking photographs of the installation before it was taken down, and no doubt shared the incipient curatorial feelings of post-partum in the face of the show's imminent demise. Our joint tours of the exhibition remain among the most memorable and stimulating aspects of our collaboration, and the most exhilarating. Whether accompanying Victorianists, students, peers or ambassadors around the galleries, new insights and thoughts invariably emerged as objects and exchanges prompted a highly public and free-flowing form of *conversazione*: it was like shining two sets of headlights, Jim said.

In his teaching, his publications, his conversation and his exhibition work, Jim's beam unfailingly illuminates.

'Til the eye have vision, the whole members are in bonds.'

Thomas Carlyle, *Sartor Resartus* (1833–34).

Joanne Greene



Katey Anderson

Messing About in Books, or 'Experience by Water'

Charles Babbage had a large bump of combativeness. He fought with the leadership of the Royal Society, engineering technicians, the British government, and street musicians. He did not always come out on top. One exception was the popularity of his *Ninth Bridgewater Treatise: A Fragment* (1837), intended as a contribution to disputes about the moral and spiritual influence of mathematical and mechanical science. Babbage's *Treatise* was a rogue contribution to the series, unsolicited and unpolished. However irregular, the work was typical of Babbage in its polemical intent. It remains a book with a capacity to surprise, straying into a world of geophysical and religious speculation.

The most revealing discussions are those concerning the ocean and air. Babbage wrote about the maritime atmosphere in dramatic terms.

> The air itself is one vast library on whose pages are forever written all that man has ever said or woman whispered….The track of every canoe, every vessel which has yet disturbed the surface of the ocean remains for ever registered in the future movement of all succeeding particles… leav[ing] behind them an endless progeny, which, reviving with diminished energy in other seas, and visiting a thousand shores…pursue their ceaseless course till ocean be itself annihilated.

These natural reverberations, and our ability to grasp them, link an individual to the global world and to all time: there is no escape from the consequences of our words and actions. As exalted beings in a future life, we would be capable of sensing

and analyzing this natural record of disturbances and effects. Our own memory – the key element of the survival of the individual soul, for Babbage – will inevitably drag us into a state of utter mortification. In the afterlife, we will intellectually trace and emotionally feel again each particle of our own behavior, whether that of 'thoughtless folly' or 'real guilt.' The only recourse was mechanical philosophy itself. As we 'turn from the contemplation of our own imperfections, and with increased knowledge apply our minds to the discovery of nature's laws, and to the invention of new methods by which our faculties might be aided in that research, pleasure the most unalloyed would await us at every stage of our progress.' For Babbage, heaven is full of earnest analytical students.

Babbage's surreal account of a future acoustics was critical to his aim of challenging those like William Whewell who claimed that the study of matter led to indifference morally and spiritually. Although the *Treatise* opens with a comment on hurricanes and ends with appendices on geology, the fluid surface of the sun, and the deductions of climate cycles from fossilized tree rings, Babbage's geo-physical preoccupations have received relatively little attention. His two dramatic scenarios for the formation of our planetary surface from a molten globe are terrifying speculations that aimed, philosophically and rhetorically, to stimulate the reader's imagination, and then to rein it back to habits of analysis. 'Let us suppose that we possessed data from which the approximate amount of vapour contained in the entire atmosphere were known, and consequently the whole amount of water,' he proposed calmly, returning the reader to measurements and calculations.

Babbage's preoccupation with ocean and atmosphere have a further significance best approached through biography. His family came from the coastal town of Teignmouth, and he attended a school that catered to sons of gentlemen aiming at 'sea service.' Captain Marryat, navy officer and author of sea adventures, was a boyhood friend. The famed automatic block-making machinery at Portsmouth was both inspiration and engineering resource in Babbage's calculating machine projects. In Portsmouth, too, he descended in a diving bell developed for ship repair in 1818; later, he wrote an article on diving bells for the *Encyclopedia Metropolitana*. Work on the Royal Astronomical Society committee to reform the *Nautical Almanac* familiarized him with the complexities of tidal data.

Babbage also had more intimate encounters with water: he nearly drowned three times. The episodes are recounted in a chapter titled 'Experience by Water' in his 1864 autobiography, The first involved a swim in a wintry sea at his father's property at

Teignmouth to collect a seabird he had winged with his shotgun. The swim was a risky feat, enough for him to decide in future to leave seabirds 'to their dominion.' The second occurred during a swimming experiment in the tidal Dart River. Ripping covers from 'a couple of old useless volumes with very thick binding,' he hinged each pair and attached them to his boots. They folded inwards as he lifted and flattened out as he stepped. He had some success in moving upright through the water until one volume's hinges collapsed. Encumbered by his book-strapped feet, Babbage had great difficulty in escaping from the tide to reach the bank.[1]

These were youthful episodes. The third event occurred in 1827 when he visited the Thames tunnel construction project with his 12-year-old son. Babbage noticed trickles of mud slide from the roofing and knew what this might signify: 'but a short time before, a similar occurrence had been the prelude to the inundation of the whole tunnel. I remained watching the fit time, if necessary, to run away; but also noticing what effect the apparent danger had on my son.... [His guide, the engineer I.K.] Brunel told me that unless himself or [another engineer] had been present, the whole tunnel would in less than ten minutes have been full of water.' A week later, five or six workmen drowned when another tunnel collapsed, and Babbage heard that 'Brunel himself had escaped with great difficulty by swimming.' That same year, Babbage's father, wife and two of his sons had died. As we watch Babbage, watching his surviving son, the phrase 'experience by water' comes to convey a chilling awareness of death.

Drowning becomes a suggestive aspect of Babbage's maritime atmosphere in the *Treatise*. First, Babbage's description of an elevation of our senses, memory and conscience strikingly resembled a description written by Francis Beaufort, Hydrographer to the Admiralty. As a young midshipman unable to swim, Beaufort fell unnoticed from a boat in Portsmouth harbor. He was hauled out at the last moment. Recounting the experience, Beaufort spoke of mental activity that intensified in proportion as his physical struggles ceased:

> the mind's activity seemed to be invigorated, in a ratio which defies all description – for thought rose after thought with a rapidity of succession that is not only indescribable, but inconceivable…The course of thoughts I can even now in great measure retrace…every past incident of my life seemed

1. Book historians will have many questions. What volumes did Babbage consider useless? Quarto? Folio? Surely not octavo? What happened to the vandalized interior pages? How big were the hinges, not to mention Babbage's feet? But there is no more.

> to glance across my recollection in retrograde succession; not, however, in mere outline, as here stated, but the picture filled with every minute and collateral feature; in short the whole period of my experience seemed to be placed before me in a kind of panoramic review and each act of it seemed to accompanied by a consciousness of right or wrong, or by some reflection on its cause or its consequences.

Beaufort wrote down this physiological-moral tale in 1825 at the request of William Hyde Wollaston, who was investigating sensory phenomena. Did Babbage know Beaufort's story? Wollaston showed Beaufort's account to London acquaintances in 1825, and it re-circulated in 1828-29 after Wollaston's death. It seems very likely that Babbage knew of it given his relationship to both Beaufort and Wollaston. Yet, even if it is impossible to establish a direct link, Beaufort's account of near drowning provides an analogy of precisely the same type as the analogy of the calculating engine. Both are models for supernatural states of acuity in which all possible events – minute or large, remote or close at hand – could be traced and understood.

There is another thread to the idea of drowning in the *Treatise*. Babbage originally had illustrated his view of the globe as perpetual witness to all human words and actions with reference to murder. A criminal was 'irrevocably chained to the testimony of his crime' because the 'muscular effort' of killing would pass into the atoms of the bodies involved as well as into the literal atmosphere which surrounded the event. This somewhat confused description was significantly transformed in the second edition of 1838. Babbage here chose a more vivid reference to murder: the drowning of slaves in mid-ocean during the Atlantic passage. As an example of contemporary abolitionist rhetoric of suffering tied to a vision of physical analysis, it deserves quotation in full:

> The soul of the negro, whose fettered body surviving the living charnel-house of his infected prison, was thrown into the sea to lighten the ship, that his christian master might escape the limited justice at length assigned by civilized man to crimes whose profit had long gilded their atrocity, – will need, at the last great day of human account, no living witness of his earthly agony. When man and all his race shall have disappeared from the face of our planet, ask every particle of air still floating over the unpeopled earth, and it will record the cruel mandate of the tyrant. Interrogate every wave which breaks upon ten thousand desolate shorts, and it will give evidence of

the last gurgle of the waters which closed over the head of his dying victim.

This literally sensational addition seems prompted by a *Quarterly Review* article on the slave trade (cited by Babbage), in which the Atlantic passage is depicted as a hidden grave. 'One plash, one shriek, and all is over. A moment's ripple curls where the sunny water has closed over the dying: then the clear deep blue resumes its calm; and every trace of death and guilt is gone.' Babbage utterly rejected this conventional rhetoric of indifferent nature. No ripple will ever disappear: the natural world is a permanent witness of all we say and do. Via the concept of geophysical traces, the example of the drowning slave linked scientific investigations to questions of the individual soul and the collective social conscience. As with his other maritime references, death by water showed how Babbage scaled up, moving his arguments from the minute to the planetary.

Liana Ashenden

Mirjam Brusius

Visions from a Train between Germany and the United Kingdom. A Letter to Jim.

I

Last year, the Chinese artist Ai Weiwei moved to Cambridge in the United Kingdom. Excoriating Germany, where he had lived for four years, he described it as intolerant, bigoted and authoritarian, and as failing to provide a positive environment for foreigners: 'Fascism is to think one ideology is higher than others and to try to purify that ideology by dismissing other types of thinking. That's Nazism. And that Nazism perfectly exists in German daily life today.'[1] Having grown up mixed-race in a small village in the south of Germany, where Muslim families from the Middle East were at best 'exotic', and news about far-right attacks on ethnic minorities was a 'normal' part of our lives, I understood where he was coming from. At the same time, like others, I was slightly puzzled by his choice of destination. Why on earth did Ai Weiwei assume that post-Brexit Britain was the place to go? His answer was bizarre at first sight: 'In Britain they are colonial. They are polite at least. But in Germany, they don't have this politeness. They would say in Germany you have to speak German. They have been very rude in daily situations. They deeply don't like foreigners.'[2] I reflected on these words on the train from Berlin to London. There was definitely truth in this. So, according to Ai Weiwei, was I simply moving from impolite racism to polite racism?

In fact, compared to the all-white environment of my undergrad studies in Berlin, Cambridge, of all places, ironically once felt like a more diverse place to me. Meeting

1. Simon Hattenstone, Ai Weiwei on his new Life in Britain: 'People are at least polite. In Germany, they weren't.', *Guardian*, 21 January, 2020, https://www.theguardian.com/artanddesign/2020/jan/21/ai-weiwei-on-his-new-life-in-britain-germany-virtual-reality-film.

2. *Ibid.*

people from all kinds of backgrounds, including some similar to my own, was a new experience. The 'where are you really from' question was less frequent, and sometimes Germany was even a good enough answer – although not always. Border force officers aside, most people did not seem to care too much about what a 'real German' was supposed to look like. It was the indifference that made all the difference.

The bitter flipside of my 'ascendance into more white privilege' by simply changing my location was that not everyone could share this experience. To others, including many of my new friends, Cambridge felt incredibly white. It did not take long to realize that the diverse surroundings I had treasured were a temporary illusion anyway, as high tables during my Junior Research Fellowship in an Oxford College once again became white and male, strongly resembling the uncomfortable structures I had run away from. Ai Weiwei was right, however: many of the outrageous things I heard and observed during that time were more 'polite at least'.

The Race and Ethnicity Report of the Royal Historical Society proved that the dearth of non-white colleagues after graduation was not just a personal impression of mine.[3] I learned that you, Jim, had in fact taught a relatively large number of the UK's shockingly few BAME historians, namely, the formidable, committed and inspirational colleagues who are editing this volume. Despite my privileges, my work on 'decolonization' also changed the way people perceived me. 'They don't know *what* you are in this country', a colleague finally confirmed, listing a combination of ethnicities and religions for me to choose from. 'Either way, nobody thinks you're *really* German.' Fair enough: don't we do what we do because of who we are? I had come full circle.

II

Of course, the tolerant, multicultural Britain I always wanted to see never existed in the first place. Likewise, Nazism in Germany has never gone away. A recent campaign exposed major shortcomings in the state's monitoring of the violent neo-Nazis group NSU and raised pertinent questions about how the police had failed to discover brutal, racist murder plots in the Federal Republic of Germany.[4] Weren't we supposed to be de-nazified? Only white Germans could afford to hold on to this 'Lebenslüge', as refugee camps continued to be burnt down during my teenage years – images that

3. Race, Ethnicity, & Equality Working Group, Race, *Ethnicity & Equality in UK History: A Report and Resource for Change* (London: Royal Historical Society, 2018).

4. Jenny Hill, 'Beate Zschäpe Given Life in German Neo-Nazi Murder Trial', *BBC News*, 11 July 2018, https://www.bbc.com/news/world-europe-44764827.

haunt us to this day – compounded by new images of the atrocities committed against Middle Eastern Muslim as well as Jewish communities in Hanau and Halle, and police violence against Black Germans.

Just as both Germany and Britain tend to deny the continuation of racial ideologies after WWII, they tend to conceal the fact that these ideas predated the war. They were created by a joint effort: from the construction of concentration camps in German and British colonies to genocides and the frequent exchange of racial theories between scholars in Britain and Germany; both countries were in close contact when developing 'race science' in the nineteenth century. Pan-European discussions about 'race' were intertwined and mutually informative, as were the disciplines that undergirded these theories and that historians of science today often perceive as discrete. At University College London, the Egyptologist Flinders Petrie provided Francis Galton, the eugenicist who worked in a neighbouring building, with skulls as research material to 'advance' his theories.[5] British Egyptologists declared 'Ancient Egyptians' to be a light-skinned 'race' to distinguish them from the actual inhabitants of the region, in an attempt to identify their own 'cradle of civilization' in places like Egypt and 'Mesopotamia', a debate that continued in Germany's museums and universities.[6] The narrative of human development always culminated in Europe, while 'Mesopotamia' and 'Ancient Egypt' became 'orphaned cultures' construed with neither a time nor a place in their own right.[7] They became essentially scientific concepts, detached from the modern lives of the local peoples, who mostly excavated the finds with their own hands for European archaeologists. How will historians of science embrace these facts in the future?

In Jena, the evolutionary biologist Ernst Haeckel – sometimes dubbed the 'German Darwin – also benefited from the 'antique sciences'. As the founder of phylogenetics, the human groups in his 'tree of life' were based on arbitrarily selected features, such as skin colour and hair structure, resulting in hierarchical sequences implying that some groups had a higher status than others. Karl Astel, a Nazi and leading university

5. D. Challis, *The Archaeology of Race. The Eugenic Ideas of Francis Galton and Flinders Petrie* (London: Bloomsbury, 2014).

6. Parts of this essay were published in the German daily newspaper Süddeutsche Zeitung in January 2020 https://www.sueddeutsche.de/kultur/wissenschaft-und-museen-dekolonisieren-hand-in-hand-1.4772201

7. S. MacDonald, 'Lost in Time and Space: Ancient Egypt in Museums', in S. MacDonald and M. Rice, eds., *Consuming Ancient Egypt* (London: UCL Press, 2003), pp. 87–99.

researcher on race theory in Jena from 1939 onwards, later demonstrated that Haeckel had been of great importance for National Socialism.

For the 100th anniversary of Haeckel's death, the German Zoological Society and the President of Friedrich Schiller University Jena finally issued a joint declaration in an effort to act against scientific legitimations of racism: 'the concept of race is the result of racism, not its prerequisite.'[8] While current debates surrounding Berlin's controversial Humboldt Forum have also revealed the racist worldviews behind ethnology collections, the antiquity collections on Museum Island across the road, however, remain silent and seemingly innocent. It is a place well known to you from your numerous research stays in the city. Is Johann Joachim Winckelmann's ideal image of the 'noble simplicity', the 'silent grandeur' of Greek sculpture too sacrosanct to be dethroned?[9] The fact that until the Nazi era these sculptures served anthropologists as the basis for standardizing racial hierarchies in which people with darker skin were degraded, is often concealed.

From the Pergamon Museum to the classical antiquity collection in Altes Museum, from the 'Christianity' collections at the Bode Museum to the German paintings in the Alte National Galerie as early as 2015, the Oxford classicist Jaś Elsner condemned the fact that the Eurocentric and Germanocentric worldview of the Wilhelmine Empire had never been corrected on Museum Island. The violent consequences of racial museological theory in the Nazi era are all too familiar to Elsner, whose Jewish ancestors were able to escape. But what about their unnoticed continuity, or worse, their more recent revival, even though the idea of biological 'human races' is scientifically untenable?[10]

III

In my fist vision, Museum Island, where the Bode Museum is still named after a devoted antisemite and the foundations of today's racism were laid in collaboration with universities, will not remain neutral but become a place where the public will

8. Martin S. Fischer, et al., *Jena Declaration: The Concept of Race is the Result of Racism, not its Prerequisite* (Jena, 2019), https://www.uni-jena.de/en/190910-jenaererklaerung-en.

9. Gedanken über die Nachahmung der griechischen Werke in der Malerei und Bildhauerkunst ('Thoughts on the Imitation of Greek Works in Painting and Sculpture'), followed by a feigned attack on the work, and a defense of its principles, nominally by an impartial critic. (First edition of only 50 copies 1755, 2nd ed. 1756).

10. In her book *Superior: The Return of Race Science*, Angela Saini showed that even beyond the world of white supremacists, race theories are gaining popularity, as seen, for instance, by a rising interest in DNA testing.

be educated about the origins of Europe's racial hierarchies. Curator Subhadra Das guides tours on UCL campus to show how 'race theory' developed both in museums and university laboratories around 1900, laying the ground for the violent ideology of the British Empire and today's racism. As UCL is renaming its buildings honouring eugenicists, German museums, neither de-nazified nor decolonized, could redefine their role in society at a time when the country is yet again experiencing a worrying rise in racist and antisemitic attacks. Paradoxically, the fact that 'race' is taboo, however, is related to the Holocaust. In German collective thinking, the term is inevitably associated with Nazi Germany. As a result, Germans are reluctant to discuss race in the same way as in the UK or the US, for example, where it is the underlying soundtrack of all debates.

Race ideology still undergirds European societies, however, and thus also museological and scholarly research itself: who digs out objects? What counts as knowledge when it comes to the interpretation of the finds? Having jointly invented 'race', museums and universities, where tomorrow's curators are trained, are still almost exclusively white. In other words, human races may not exist. But institutional racism is real.

In my second vision, decolonization is therefore not a metaphor but will lead us to take a hard look into the abysses of our own institutional structures. Of all disciplines, history of science cannot afford to be blind. As a field that claims to study not just the history of 'race' but also the conditions of knowledge-making within institutional histories, it is predestined to embark on greater self-reflection. Who receives access? Who has the authority to speak about race and the 'decolonization' of (history) of science? Who is considered to be objective? To embrace history of 'race' as something that is not stuck in the past, but impairs the here and now opens up new questions about us and the world. Why, although the coronavirus pandemic unequally affects minority communities, are people still taking to the streets, declaring that racism is a more persistent virus? Why does 'the West' fail to acknowledge that many countries in the Global South have handled the pandemic better? Why is lockdown a privilege? Why are former colonies still considered suitable places to conduct trials for Covid 19 vaccines? Why were white British ex-pats repatriated to the UK in the spring, while so many others, as well as antiquities and human remains in museums, were not? If historians of science want to address today's real problems strongly and programmatically, we must recognize the colonial legacies of race theory in our very own structures, include far more marginalized voices in the conversation, and above all, support efforts to write the history of race as the history of racism. Our third, and larger vision should be – and

I know this is one that you share – that nobody will ever have to choose between polite or impolite racism. We still have a long way to go, but you were key in leading us in the right direction. Thank you.

Peter Mandler

I must have first heard of Jim Secord in the early '80s when I arrived at Princeton, shortly after he left. His reputation was still reverberating through the halls – as a bright young thing who already knew everything there was to know because he read everything there was to read. I only discovered the truth of that when I moved to Cambridge in 2001 and he became a colleague, and especially a few years later when I teamed up with him and Clare Pettitt and Mary Beard and Simon Goldhill on a major interdisciplinary project exploring the Victorians' relationships with their multiple pasts. By that time *Victorian Sensation* had appeared and anyone with half an appetite for reading about the Victorians could learn how much you could glean from tracking over time a single text (admittedly a cosmic text) moving through all conceivable contexts, media, audiences and receptions. And in 2004 Jim codified what he had learnt from that vast experiment in what is surely his most widely recognised contribution, 'Knowledge in Transit'.

For me 'Knowledge in Transit', and my collaboration with Jim on the Victorians project, came at a propitious time as I was at the same time considering and testing the validity of methods in cultural history. In fact I am still thinking a lot about this (though not writing much) and so often I find Jim's work, and the ramifying body of work influenced by his, as a natural stimulus to methodological thought. How is knowledge created in the act of transmission and how does it change as it passes from hand to hand, from mind to mind? A lot of cultural history, and a lot of the history of science, is preoccupied with just that question. Bruno Latour's actor-network theory is probably the best-known theorization of this question. To my mind, the historians of science have been a little too allergic to it because of one particular danger it poses that tweaks their distinctive sensibilities: that is, Latour's favouring of the agency of non-human actors looks too much to historians of science like the re-entry of a whiggish sense of scientific 'progress' through the backdoor. If you let microbes or air pressure

play too much of an independent role, they will tend to draw attention away from the central shapings of science by human agency which so much history of science has been dedicated to demonstrating. Plus there is the related danger that if you let them 'act' independently that action will be seen as proceeding in a whiggish direction – that is, their independent action will be identified with the allegedly purely empirical observations of the behaviour of the natural world which scientists claim to be their sole province.

I am probably more sympathetic to Latour's claims here than Jim is, but I don't consider them to be crucial (or fatal) to the wider construction of actor-network theory, and I don't think actor-network theory needs to be as 'ahistorical' (or too abstract for use by historians) as Jim says it is in 'Knowledge in Transit'. To the contrary, when I think about knowledge in transit as a cultural historian I think of it in terms composed equally and inextricably of Latour and Secord. Knowledge travels through a network and changes at every node. As I think Bill Sewell (or possibly Marshall Sahlins on whose 'theory of the event' he was basing his argument) never quite says, 'every iteration is an alteration'. That means there is no uniquely privileged point in a 'discovery' because it changes as it passes from laboratory to notebook to seminar to paper, and we need to pay attention to the material transformations – material in both literal and figurative senses – that occur at each node. It also means that there is no uniquely privileged format in which knowledge is contained: 'science' and 'popularization' are co-constructed (or, rather, as Jim says in 'Knowledge in Transit', we ought probably to stop talking about 'popular science' altogether; the same goes *a fortiori* for 'diffusion'). There's a rather neat demonstration of how this works in practice in Josh Nall's recent book *News from Mars*, written to some extent under Jim's influence, which shows vividly how astrophysical knowledge about Mars is created by means of its passage through multiple nodes (multiple media – telescopes, telegraph lines, newspaper column-inches, exhibitions; multiple actors – astronomers, encyclopedia editors, newspaper editors, bureaucrats). Very Secordian…very Latourian.

To my mind, the emphasis on the network in both Secord and Latour, and the insistence (motivated again at least in part by the fear of whiggishness) on its flatness – that is, the equal value we should attribute to each of the media, each of the actors, each of the nodes – has also imposed some limitations that those of us engaged both in methodological reflection and in works of historical contextualization ought to now be pushing against. Both Secord and Latour have been a little shy about assigning significance or priority to particular nodes as knowledge moves through them and

changes accordingly. Jim refers to 'entanglement', 'mutual interdependence', or to deploy the now more familiar terms, 'co-construction' or 'co-constitution'. I don't deplore the use of these terms – I have been known to use them myself – and they remain effective in questioning conventional hierarchies that depict 'expert knowledge' as being 'diffused' through 'popular science'. On the other hand, they can also become wiggle words in which we bury more challenging questions of what is happening within nodes, which nodes are more powerful than others, which nodes determine switching (i.e. where knowledge goes), and so on. Latour acknowledges that actor-networks produce 'place, size and scale' – dimensions which might help us answer those questions – but he (and his epigones) seem to spend more time 'keeping the social flat' – that is, working to exclude fictional collectives which are taken to over-determine knowledge creation – than in considering the factors making for the production of place, size and scale. Similarly in acknowledging processes of co-construction we need to keep a lively sense of what constructs what and how much – a sense of the relative 'throw' of different nodes, as I once put it – so that in attacking simplistic hierarchies of centre and periphery we don't implicitly replace them with simplistic unhierarchical relationships. Good history of science in the Secordian vein does just that. Josh Nall, for example, is careful to conclude that his demonstration of the extent to which media co-construct astrophysics 'adds to rather than rewrites' the demonstration of other sources of construction, in ways that are always historically contingent. Sometimes the big technical-bureaucratic assemblages do stabilise meaning in ways that look suspiciously like the accounts of 'scientific progress' familiar from whig history. But not forever, and not always, and never in exactly the same ways. Thankfully, the historian's road never ends, and thankfully, too, Jim has pointed us in the right direction.

Petter Hellström

The Wood and the Trees

To say that someone 'cannot see the wood for the trees' is a long-established proverb in English. It appears to have been around already in 1533, when Thomas More included it in the second part of his *Confutacion of Tyndals Answere* (London: Rastell, 1533) to build his case against Robert Barnes, a Cambridge doctor and religious reformer whom More considered a heretic:

> Then aske we hym [Barnes] what is holy chyrche her selfe / and to that answereth he nothynge, but that holy chyrche her selfe is a congregacyon of good crysten men and good crysten women, of whyche euery one is vysyble, but the congregacyon of them is inuysyble. […] And as he myght tell vs, that of Poules [Paul's] chyrch we may well se the stones, but we can not se the chyrce. And then we may well tell hym agayne, that he can not se the wood for the trees. [p. ccccxxxvii]

It is not clear who won the debate: the former chancellor was beheaded in 1535, while the dissident friar was burnt to death in 1540. Yet the expression survived and appears to have been in common use ever since, with a forest typically playing the part of the wood in American English. Over the centuries, however, the meaning of the expression has changed. Today, to say that someone cannot see the wood for the trees, is to say that someone is so involved in the details of a situation that they do not understand what is important about it.

Like More and Barnes, we too live in times of ideological polarisation. Still, some people are able to see both the church and the congregation. In the case of Jim, for example, it has always been a matter of *seeing both the wood and the trees*. In his scholarship as in his teaching, Jim has the rare ability to keep historical detail and process in sight

at the same time. Many of us aspire to strike a similar balance, but this is easier said than done. All too often, we are blinded by a compelling analytical perspective, or we miss out on the bigger picture because we continue to zoom in on the minutiae. It is easy to miss the wood because of the trees, or, conversely, to get lost in the woods because the trees all look the same.

There is an another, more specific reason why this saying applies to Jim. When I was an MPhil student at the Department of History and Philosophy of Science in 2009, I had the good fortune to write an essay under his supervision. As I first spoke to him about my ideas, I only knew I wanted to work on evolutionary trees in relation to the tradition of religious tree imagery. In the face of this veritable woodland, Jim suggested I go look at Tania Kovats's artwork *TREE*, which had then recently been installed in the mezzanine gallery of the Natural History Museum. I went down to London the following weekend. I literally spent over an hour staring at the ceiling.

For those of you who do not know it, *TREE* is both a symbol and an object, both artificial and natural. The artwork is a lengthways slice of a woodland oak, felled, prepared and attached to the ceiling of the museum on the occasion of Charles Darwin's bicentenary; it is a real tree made to remind us of a tree-like drawing. In hindsight, it appears that Jim knew better what I was looking for than I did myself: he was proposing a distinctly material entry into a history which, at the end of the day, was as much about practical concerns as it was about ideas.

I have been working on tree diagrams in the history of science ever since. I finished my PhD on the subject in 2019, and I am now reworking my thesis into a book. As I first came to my object of study over a decade ago, Jim made me stop and look carefully at one individual tree. Not for the sake of it, of course, but because even the most tangled woods are made up of trees.

Richard Staley

Dada Secord

Without always knowing the extent of it, I have engaged in a long-term career and historical conversation with Jim that involves our research as well as our teaching. We've worked on common themes in different periods (especially the cultural history of mechanism); once I returned to Cambridge we've taken over some of each other's Part IB lectures when one of us is on leave (lectures on Darwin and modern physics, for example); and we've co-supervised/advised two wonderful PhD students, Meira Gold and Jules Skotnes-Brown. Between 1991 and 2013 that conversation involved several direct meetings (although too few for my taste) and there have been many more since, but appropriately enough it has usually been mediated by reading. I've certainly been the main beneficiary but will conclude this brief tribute by offering a challenge that I hope Jim might take up in his retirement.

The first time I presented work outside Cambridge (while still a student) was at Jim's invitation to the Science Museum Seminars in the History and Public Understanding of Science, when he was at Imperial College. I spoke on Anglo-German educational reform debates around 1900 and tentatively asked Jim about publishing on it; thinking back to it now has allowed me to restore that seminar to the first line in the appropriate section of my CV, though I will have to recover my little brown diaries to have any chance of ascertaining its date more exactly than 'Spring 1991' (I imagine that like me, Jim might still have a stock of old University of Cambridge diaries). The later meetings I particularly remember were in Halifax (when Jim gave his 'Transit' paper) and Madison, when Jim returned to his hometown to give a talk on print culture and reading. His work has inspired many of us to pay more attention to the materialities of both. Although I surely don't cite him for it I can see traces of the way I tried to continue our conversation in my discussions of different versions of Henri Poincaré's

La science et l'hypothèse, or responses to the 1900 World's Fair. While Jim has usually worked on the scale of whole books, I've often been more concerned with tracking words and concepts like 'classical', but have also been pleased to think more broadly - for example about libraries and catalogues of mathematics and science, following Felix Klein and Poincaré.

Although I've once seen Jim lecture on Darwin when familiarising myself with Cambridge practices in 2014, our teaching conversations have usually taken place somewhat indirectly. You might be able to discern them in subtle changes in lecture reading lists, slides and handouts as I've taught 'Origin of Species' and 'Energy and Industry' after Jim, and I think he's taught 'Making Modern Physics' after me – but also before me. My big challenge in coming back to Cambridge was going from giving thirty lectures in courses on modern science, or on the period from the scientific revolution to World War I (two and a half of them devoted to Darwin), to presenting the epitome of a topic in one lecture accompanied by an ambitious reading list. Jim's eloquent brevity has been a great help in that, and I particularly appreciate the attenuated but collaborative elements of teaching in company in Cambridge. Although we each lecture alone it is in temporal community with those who've taught before, as well as with colleagues who lecture in the same course. Borrowing sources, picking and choosing my own material partly in response to what I can discern of the narratives that others have used, I try to repay a debt of inspiration I owe to people like Jim by using their example to improve on what I could do under my own steam. Even teaching graduate students has communal moments a bit like that. I'm sure our students benefit from the diverse perspectives they get from having two people supervising/advising them. Sometimes in the middle of a supervision with a student we share I've found myself wondering what Jim might think or have to say, but it is a particular joy when we all meet together for an actual conversation.

And then of course there's reading Jim. The cover of *Visions of Science* instantly reminded me of my own work on the cultural history of mechanics/mechanisms/machines in the twentieth century. Having argued that in the interwar period the city was treated as a machine, and we should think of social mechanisms not just the automata and factories we know from earlier periods, I could see that Jim had been working on machines in a very different period (with Britain's mix of industrialisation and fear of the potential revolution, too). But even more specifically his 'March of Intellect' image reminded me of Dada and the art and photomontages that John Heartfield, Raoul Hausmann and Hannah Höch produced in the course of World War I and later. And

that brings me to the challenge I'd like to put to our historian of the book and reading, who has recently been running a working group on the longest nineteenth century with his students. I wonder what history he'd give to Dada, for they seem to use words to break open art, and art to challenge reading, while also offering a vision of the self scientific. As an inducement, I've adapted Tristan Tzara's recipe to make a Dada poem. Instead of using a newspaper article I've approached Jim's cover and a paragraph of his book with my kitchen scissors and a cloth bag, forming the poem on the page word by random word (though I stopped before emptying the bag). That might give us a new way to read Jim. You could call it 'Dada Secord: A. VISI SCIENCE OF ONS', or you could use the first three words that came out of the bag: 'fearful the conversation' (Figure 1, following).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Rohan Deb Roy
'Dear Jim, …'

I vividly remember our first meeting. It was in the Easter of 2009. I was still working on a draft of my PhD dissertation and quite anxious about the uncertain future ahead of me. We met in your office on Free School Lane. We talked about the history of natural history and insects, and you introduced me to some of the key readings on the animal turn that had just begun to appear in the mid and late 2000s: *Six Legs Better*, *Bugs and the Victorians*, 'Trading knowledge: The East India Company's Elephants', among others. These texts have remained with me ever since. Today, I am lucky to consider their authors among my friends and collaborators. But, what really stood out in that brief interaction, and something that became an indelible hallmark of the conversations that followed, was your ability to combine frank, critical and objective feedback with astounding scholarly empathy.

Over the past decade, you have supported me in numerous ways- as mentor, as 'sponsor' of my postdoc application, as an editor, as a co-teacher and co-organiser, as a senior fellow at Christ's College and as a referee. But, today I am going to highlight two specific ways in which you have decisively influenced my work.

Before our routine interactions commenced in early 2011, I considered myself a historian of colonial medicine in South Asia. My scholarly canvas expanded when you invited me to co-teach 'science and empire' with you at HPS in the Lent of 2012. While my intellectual roots in South Asia remain entrenched, you empowered me to venture beyond my original comfort zone, and to connect and compare colonial experiences in the subcontinent with those of the wider imperial world. Clearly, my University of Reading module on 'Modern science and the imperial world' (now in its fifth year) and my 'long read' at *The Conversation* on 'Decolonise science' have their roots in the 'science and empire' cluster of lectures in Cambridge that we co-taught.

I am also indebted to you for inspiring me to think with images. My doctoral dissertation was based on a kind of discourse analysis that focussed on written texts. You motivated me to treat the visual as an alternative language. Henceforth, the visual has become for me a distinct methodological lens to examine the production, circulation, contestation and appropriation of knowledge. My PhD thesis did not include any image at all, whereas my first book, based on the same thesis, has 40 images. To a great extent, I owe this metamorphosis of my first major project to you.

This training to work with images continues to inform my current work on the cultural history of insects in colonial India. I wanted to share with you a couple of images that I am examining in a new book chapter on mosquitoes that I am currently drafting.

The first image is a Bengali advertisement from the early 1940s. It compares mosquitoes with enemy aircrafts that threatened the territory of Bengal with 'raids' during the Second World War. It depicts a gigantic mosquito, followed by innumerable smaller mosquitoes, hovering over the map of Bengal. The illustration accompanying

Figure 1. Advertisement of 'Baikol', *Ananda Bazar Patrika Saradiya*, (1942), p. 172. [AS 46, BSP 32. Credit: The Archive of the Centre for Studies in Social Sciences, Calcutta.

the advertisement was captioned 'The enemy attacks Bangladesh'. This is one of the many contemporary sources that indicate that South Asians in the period compared mosquitoes with forces that harmed the cohesion and the stability of the emerging nation in the region.

Anasuya Sengupta, an up-and- coming illustrator from Calcutta, produced the second image in December 2019. This was created in the context of nationwide protests against the interventionist citizenship regulation policies launched by the Prime Minister Narendra Modi and Home Minister Amit Shah. The cartoon refers to Modi and Shah collectively as MoSha. MoSha happens to be the Bengali word for mosquitoes! This image shows a MoSha –a mosquito –with two bespectacled bearded faces, one representing Modi, and the other, with a bald, representing Amit Shah. The image includes a map of India, protected by a mosquito curtain. Here, MoSha seems to be making a desperate attempt to pierce through the fragile resistance offered by the mosquito curtain. It carries a caption in Hindi: 'Drive MoSha away; protect the country'.

I will look forward to discussing these images and more when we meet next. But, I also look forward keenly to your next book and beyond. Congratulations on such a remarkable career. You are one of the finest scholars and human beings I have ever met.

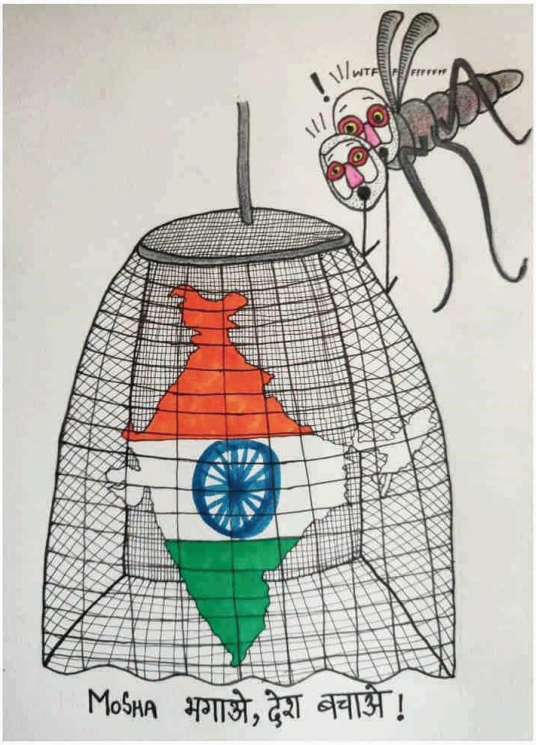


Figure 2. Anasuya Sengupta, 'Drive MoSha away; protect the country', Unpublished image, December 2019. Credit: Anasuya Sengupta.

Seb Falk

In 2011 I was a newly arrived MPhil student in HPS, with no idea about research methods. Somehow I found myself attempting to write my first MPhil essay on a nineteenth-century Spanish globe/educational toy in the Whipple Museum collection.

Figure 1. Detail of globe by Benjamín Tena, Villafranca del Cid, Spain, c. 1899-1902 (Wh.5892).

I knew nothing about printing – or much else – in the nineteenth century, so my supervisor Liba Taub suggested I should get in touch with Jim. I'd never met him but he replied to my speculative email straight away with encouragement and enthusiasm. And when he kindly made time to examine the globe with me, he blew me away with the instant connections he made between the object and its context. Pointing out what I had failed to realise: that the dramatic illustrations of dinosaurs and other natural history came largely from the engraver's imagination, he recommended an armful of readings

which opened my eyes to the interactions between images and texts, the practicalities of print, the international market of science popularisation, and much more. I never had the good fortune to be supervised directly by Jim, but that first brief interaction showed me his enormous knowledge, his infectious positivity, his gift for seeding ideas in a way that fires a student's imagination: not giving pre-packaged answers but instead providing the signposts and momentum each student needs to make their own fresh discoveries. As an early experience in HPS, it was utterly exhilarating, and addictive.

Thank you Jim!

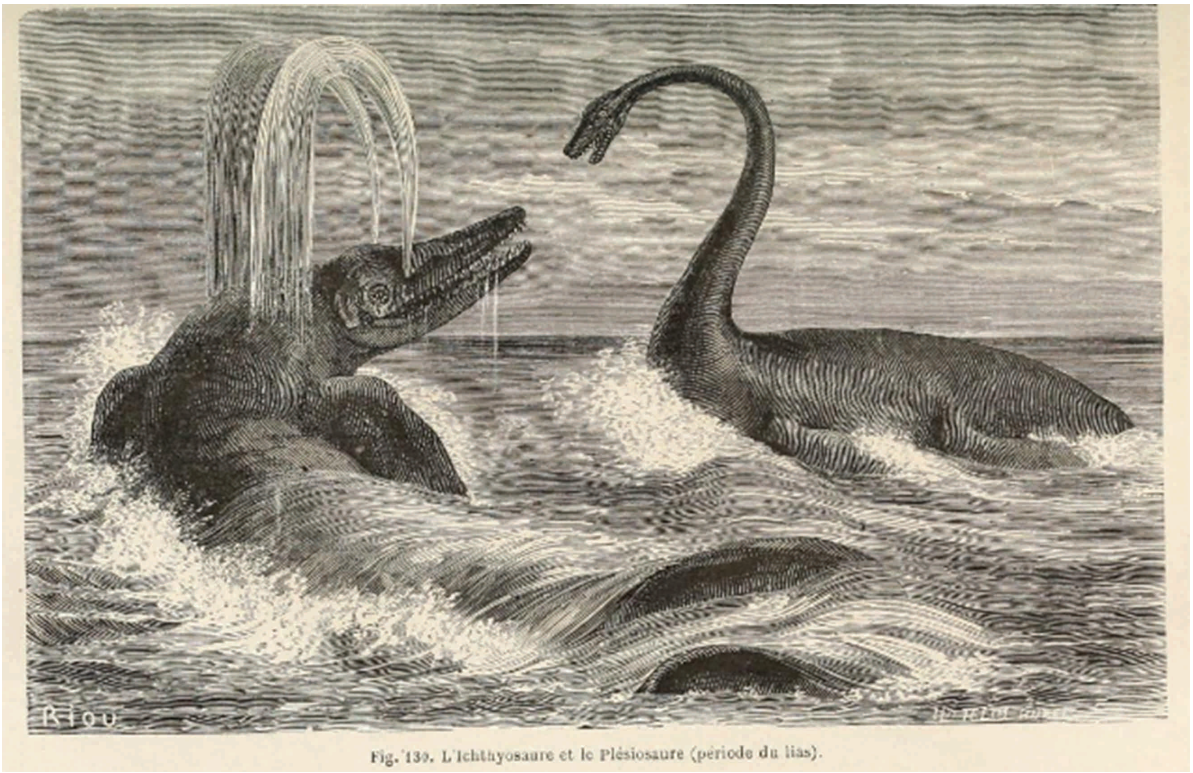


Figure 2. Louis Figuier, *La terre avant le déluge*, 4th ed. (Paris: Hachette, 1864), 159. Public domain.

CORRESPONDENCE

Aileen Fyfe

Dear Jim,

I don't know how it is for you, but my earliest clear memory of you is when I came to see you about my ideas for a Part II dissertation; that must have been October 1995. The surprising thing is that that should not be the first memory: you had lectured on Part IB in the previous academic year, yet I find no picture in my memory of any of your lectures (nor much memory of the rest of them, actually!). I typically claim that it was the history lectures of Part IB that inspired me to defy my pharmacological Director of Studies and make the career-changing switch to Part II HPS. Given the rhetorical role those lectures play in the narrative of my conversion from would-be scientist to historian, it is strange, now, to realise how little I actually remember of them. (Fortunately, the career-change turns out not to have been the 'waste of your brain power' that was direly predicted…) I do have some memories of your Part II lectures, though they mostly seem to involve you standing in the downstairs seminar room and waving your hands around a lot!

What else do I remember about those early days?

I remember supervisions in your office at the top of HPS, surrounded by your collection of old books, and I remember other supervisions in Trockel, Ulmann & Freunde, where you always insisted on buying me cake, presumably on the reasonable assumption that PhD students needed a treat from time to time. But actually, the supervisions blur into one another.

And yet, I remember odd snippets of advice, many of which I still use, and I also pass on to my own PhD students: don't start so many sentences with 'However,…'; if you have to tell the reader that 'It is interesting that…', then it probably isn't; include at least as many words of reflection on a quotation as there are in the quotation itself;

and don't think that doing lots of photocopying is a substitute for actually reading the documents. I confess that I still have a thick folder in my office containing photocopies from Victorian periodicals in the UL that I've never yet got around to reading. (My excuse is that the project went off in a different direction than anticipated…)

I recollect you, deep in *Victorian Sensation*, claiming that you were absolutely not a Darwin scholar: we didn't need more Darwin scholars, when there were so many other people, books and ideas to be explored. But I can hardly cast aspersions: I used to be equally vehement that it was popular publications that needed to be studied more, not the well-known forms of communication used by the well-known metropolitan men of science. And look at me now: well on my way to being the world-expert on the publication strategies of the Royal Society, which is about as far from 'popular' as it is possible to be. And yet, also discovering how much more there is to learn about the publication strategies of scholarly journals that have usually been taken for granted. The moral is, that academic careers don't turn out the way you expect. And, of course, they shouldn't: one of the fantastic things about our line of work is the fact that we're free to pursue our curiosity where it takes us, and are actively encouraged to explore new areas of interest.

I remember a time when we were both immersed in the 1840s: your horizons were pretty much confined to 1844 to 1845; while I just about stretched from 1844 to 1854. I don't think I was particularly aware that you had recently edited a special issue of *BJHS* calling for historians of science to develop new 'big pictures'; but I think of it now that I'm working on 350 years of scientific publishing. That chronological scale would have been terrifying to me back then; but now, it is exciting and eye-opening. Working on such a scale allows me to ask different questions, about change over time, and the relative significance of events that, seen separately, might all equally be labelled 'crucial'.

I have found that looking for the big patterns and trends is not only a thought-provoking way of doing history, but it gives me the confidence and ability to engage with contemporary concerns about the future of academic publishing. I've been intrigued to discover how stimulating it can be to share my research into the historical editing, publishing and financing of scientific journals with the people who perform those roles now: it's not just the joy of sharing what I do with an interested audience, but of realising that their inside knowledge raises questions I hadn't realised I should be asking. There is a virtuous circle here: working on the 'big picture' enabled me to engage more meaningfully with different audiences, and doing so has helped me to see

the 'big picture'.

I also remember the many ways in which your support extended above and beyond the formal supervision. Without that support, there is no doubt that I would not have the successful academic career I now have, or, indeed, any academic career at all. I remember the surprise of a phone call from you, when I was visiting my grandparents during the summer holiday after graduating Part II. In the days before mobile phones, tracking me down must have involved quite some effort on your part! (It was about a possible PhD studentship, the AHRB in its wisdom having declined to offer me funding. Hah. But you guided other sources of funding in my direction, and all was well in the end.) That same summer, you put me forward for inclusion in an issue of *BJHS* celebrating 50 years of BSHS: having a first publication so early in my career has proven invaluable. I don't remember when it was you arranged for me to work as a research assistant to Bernie Lightman (mostly doing lots of printing-from-microfilm at Colindale); but that too brought fruitful collaborations and publications, particularly in the first phase of my post-PhD career. And I suspect you may have had something to do with the invitation to join the council of BSHS, which proved so useful to me both in providing a regular, expenses-paid visit to the UK when I was working in Ireland; and in enabling me to create networks that have continued to support me personally and professionally ever since.

Now that I am what is called a 'senior woman' in academia, I am frequently involved in mentoring and activities to support other academic women. And so I am asked: what do you think made your career successful? And who were your role models? I used to find that difficult to answer: there weren't exactly many women role models in HPS in the 1990s; and it didn't seem to me that my career had been notably difficult because of my gender. But the more I learn about the experiences of other women in academia, the more I have come to appreciate how much your support smoothed away those obstacles for me. I'm not talking now about the intellectual and academic training you gave me; I mean the unstinting practical support, much of which came down to introducing me to people, pointing opportunities in my direction, and encouraging me to take opportunities which arose. It sounds simple, but I now realise that such things do not simply happen, particularly amidst the competing demands of other aspects of academic life. I know now, as I did not know then, that it takes a generous mentor to think, and act. And good mentors and role models for female academics need not themselves be female. Thank you.

It's only lately that I realised that, when we first met, you were roughly the age I

am now. To me then, you were the senior, experienced, authoritative figure; someone who knew lots of people, and who knew how the profession worked. (Goodness only knows what that makes you now…!) It makes me wonder how I now appear to my own students and postdocs, because I don't feel that way inside. And I wonder, did you? I am increasingly conscious of my responsibility as a role model for younger academics, whatever their gender, and this makes me reflect on the model of academic life I want to showcase. There are many historians out there who seek to bolster their authority and self-identity by showing off their knowledge in a way that often means denigrating others, particularly younger colleagues or those with less power. One of the gifts you gave me was a different model, underpinned not by rivalry, but by a sense of common purpose in trying to explore this strange land of history. It is a model of the senior academic who supports and helps their fellow-adventurers, and greets their discoveries with enthusiasm, fascination and interest. It's the way I try to teach my students, and I think I learned it from you.

And for that, as well as all the rest, I thank you.

With very best wishes,

Aileen.

P.S. I am now waiting with interest to see which model of 'retired academic' you are planning to follow…

Anna Alexandrova

Dear Jim,

I feel so very lucky to have crossed paths with you. Being your colleague and watching you in action has taught me one thing especially: how to communicate strong, powerful, and informative messages (intellectual or administrative) while remaining fundamentally warm and empathetic. I've often wondered how you manage this and if this special virtue is connected to your vision of science as a communicative act. Do you mean to live out your thesis? That is so clever and admirable.

I am sorry the lockdown has spoiled your last term in the department. But at least we now have the pleasure of looking forward to a more extended celebration of your many wonderful virtues.

Warmest wishes and thank you FOR EVERYTHING!

Anna Alexandrova

Cathy Gere

Dear Jim,

It is rather disconcerting to be writing for the occasion of your retirement. The intellectual community of History and Philosophy of Science will be so different without you at its heart, and however ready you may be to step back, the profession is surely not ready to let you go. I well remember standing in the stacks of the library at Sussex University, reading your article on Andrew Crosse, and feeling all the hairs on my arms standing up. At the time, it was still a source of amazement to me that academic history of science could nurture the subversive spirit abroad in Free School Lane, and the understated, crystal clear, delicately insightful way that you revisited the spontaneous generation controversy was a revelation to me.

As you know, I came to Cambridge with a rather unorthodox background, and will be forever grateful for the neo-gothic portal to the life of the mind that I found there. You were the one who held the door open and welcomed me in. You took me on after the MPhil, and provided a framework of support that enabled the unexpected second act of my rackety life. In retrospect, I appreciate the lightness of touch that you brought to the task: you listened so hard and so actively that the ideas were drawn out of me; then you gave those ideas your imprimatur, and licensed me to go forward. I used to call it 'Jim renewing my weirdness license.' One early conversation we had about Freudian archaeology particularly stands out to me: it was heartening at a deep, life-changing level to have my ideas received with such generous attention. The history of a very dodgy archaeological reconstruction was by any measure an eccentric project, but you had the grace and insight to be amused and intrigued.

You were working on *Victorian Sensation* at the time, which is such a classic in our field – and, indeed, in many other fields. Your research on *Vestiges* sought to refocus

our attention away from the protagonists who have been retrospectively anointed as the central players and towards the book binders, the glue-makers, the printers, the readers. You summoned up a host of the forgotten and the neglected and you breathed new life into them. Apart from its argumentative power and meticulous research, the book is extraordinarily evocative of the texture of nineteenth-century life, teeming with all kinds of people, not just the lonely few who now attract all the ink. There was a democratic, egalitarian sensibility at work in your research, the same sensibility that you brought to nurturing the talents of generations of graduate students who didn't look like you. You have changed the face of history of science, not just inside the covers of your books and journal articles but also on the conference circuit and around seminar tables and in academic senates. The profession is better, richer, more diverse, more equal, and more generous for the example that you have set.

With love, admiration and gratitude,

Cathy Gere

Clara Florensa

Dear James,

This is Clara Florensa. I was visiting student at the HPS during the 2013–2014 course and you accepted to be my sponsor. Since then, we have met on different occasions and you have always remembered me and shown interest in my career and work.

Now that I am talking to you through a letter and not in person I will dare to confess that I have never managed to be natural and relaxed in our conversations. I have always been too willing to make a good impression on a historian of science that I admire.

And this is only my fault because you have always been approachable. When I came to the HPS you were extremely kind to me. You were then Head of Department and were very very busy, but you always found the time to talk about my work, sometimes with a cake in that little café around the corner.

And this is not minor. I was very embarrassed about my English and because of this I could hardly discuss all the things I would have wanted to discuss with you. But talking to you was always easy. Your calm way of speaking, slow and always attentive to the other, helped me a lot.

My talks with you helped me reshaping my idea of a public sphere in a dictatorship, a concept I am still trying to grasp. I remember talking to you about possible sources to look at and your glittering eyes when talking about the censorship archives in Spain. You listened to my work on the circulation of discourses about Evolution during Franco's dictatorship with what seemed to me genuine interest, and that meant a lot to me.

I would like to thank you for all these little and big things and for making my stay in Cambridge not only intellectually interesting and challenging, but also nicer and more comfortable. And above all I write to wish you a very nice retirement, full of everything

you wished or wanted to do while working but did not have the time.

Clara

Charlotte Sleigh

Thank you, Jim, for teaching me all about the history of the earth sciences, and how to be a decent and kind academic. Congratulations on your outstanding career, which is to say, being one half of the academic power-couple Secord and Secord. Between 'Knowledge in Transit' and 'Science in the Pub', you collectively account for about 50% of the reading recommendations I have ever given out.

Charlotte Sleigh

Figure 1. 'Rules for Sailing into Felicity Harbour' Sir Harry Page Collection, Number 2, E & T Wilson, 1800-1830. Manchester Metropolitan University Library, Special Collections, p.43.

Clare Pettitt

To Dear Jim,

As you round the straits of Perseverance, Productivity, and Labour, and make for the Lake of Contentment and Pleasant Isles of Retirement, I want to thank you for all your help and inspiration on 'Life's vast sea where storms prevail / And fortune shifts the driving gale' (figure 1, facing).

It was you who first made me think seriously about nineteenth-century albums and scrap books. You have made us all think better and more deeply about how knowledge is made and shared. Yours is a material intellectual history that is inclusive, participative, sociable, generous and creative. Your work has become a geological substratum in my own thinking, a deep part of my landscape, giving contours to the map I now use to navigate nineteenth-century culture. Thank you!

We shall not part at Cape Farewell! We shall meet again on the Promontory of Good Humour (also known as the UL tearoom).

With love,

Clare P.

D. Graham Burnett

It is a pleasure to write in recollection and celebration of Jim Secord, friend to so many. Jim was my primary dissertation advisor during my graduate training at Cambridge History and Philosophy of Science in the mid-1990s. His generosity and good spirit were essential to my life in that precarious phase of things, and I will always be deeply grateful to him for his mentorship, his support, and his kindness. They were three cords in a braided line that pulled me through shoaling waters, got me out past the breakers, and launched my academic career. I, like lots and lots of others, owe him a great deal.

I have the clearest memory of Jim's friendly and gentle manner: his smiling goofiness and unstinting mood of easy-going, unhurried happiness. He was always so quick to make himself the butt of a joke — as a sweet gift to the mood of others. This is a remarkable quality in any setting, but especially rare, I think, in the highly competitive spaces of elite learning and scholarship. I was so high-strung in that phase of life (so tuned up by anxiety and drive and hunger to succeed; so addled by the work of adjusting to a totally new academic environment), that I was especially in need of the kind of intellectual *friendliness* that Jim brought to his teaching. It was a benevolence I had no reason to expect — and from which I drew enormous strength as I navigated the transition from hyper-active undergraduate to freshly-minted junior scholar.

And let's remember: back in those days Jim had *I don't know how many post-graduate students.* Lots! How he gave us all the attention he did (and still had time for his own path-breaking work), I cannot imagine. In my own case, I was on the job (and post-doc) market for *five years*. Several of those years I applied for more than *TWENTY* jobs. I can still find, in my old files, letters to Jim listing all the addresses — dozens of them! — to which all the different kinds of letters and other supporting materials needed to go. Year after year, even as I was on the other side of the world, he kept taking the time to update his letters, and fine-tune them for different opportunities, and meet

literally more than a hundred deadlines for stuff I needed. Ugh! I feel embarrassed even writing this! Jim when you read this, hear me loud and clear: THANK YOU! And all the rest of us need to keep in mind this model of faithful and diligent mentorship.

He and Anne were gracious in their coupledom as well. When I returned to Cambridge to do archival research (several years after I had established myself back in the US), they generously offered to put me up at their place, so I could save my research money to extend my work. I still have a happy memory of the clean, heavy sheets of my little bed tucked up in the guest room, and of the evenings in that comfortable and welcoming home. I cooked dinner on several nights, I recall, and it was no mean feat to keep the pots and pans as *perfectly* scrubbed as they were in that kitchen!

I write from New York City, in the summer of 2020, where we are still under many strange constraints from the COVID-19 lockdown that has beset the globe and scuttled our plans for a big, in-person celebration of Jim's tremendous service — to HPS, to the field, and those of us who benefitted from his direct attentions. These new and global calamities are putting tremendous pressure on our universities, and on the world of humanistic scholarship to which Jim, like many of us who followed his lead, has dedicated so many years of work. Let us hope that we can *hold space* for the forms of inquiry, attention, care, and intellectual generosity that we have been so fortunate as to have inherited — and which we have a deep obligation to serve in the face of dramatic and terrible changes. Jim Secord has set us an example to be prized, and an inspiration to be carried forward. This is what I celebrate, today. And it is this for which I feel such profound gratitude.

Harriet Ritvo

People usually summarize academic careers in the abstract categories recorded on cvs–positions, publications, presentations, and awards. And of course those are very important indications of professional achievement. But one of the most rewarding aspects of scholarship is routinely (and doubtless inevitably, given the genre) absent from such documents, and, therefore, often from the appreciations that are based on them. Collegiality seems like a weak way to characterize the relaxed exchanges that not only extend and elaborate formal written and oral performances, but also create and maintain the dispersed intellectual community to which we are privileged to belong. The abrupt cessation of such exchanges, except virtual ones, is one of the many unfortunate consequences of the current public health situation.

It goes without saying—but I'll say it anyway—that Jim is a model scholar. His work is innovative, imaginative, insightful, and scrupulous, whether focused on the creation of knowledge within expert communities or, as in his most recent books, on the mediation of such knowledge to a larger public. It is also a pleasure to read. And his research is not the only way in which Jim has made important and admirable contributions. In addition to his influential body of original scholarship, Jim has been a model academic citizen. He has generously devoted time to various editorial projects of great benefit to historians of science as well as to those outside the field, most significantly the Darwin correspondence.

But as valuable as Jim's books and articles and other scholarly endeavors have been to me, the opportunity to count him as my friend and colleague for decades has been still more rewarding. And I have had the chance to see, refracted through the graduate students who have entered the HASTS graduate program at MIT after having completed an M. Phil. in HPS, that the qualities that I appreciate in my friend also make him an inspiring teacher.

With every good wish,

Harriet

Haiyan Yang

Dear Jim,

I am writing from Southern California, in fact not very far from Pomona College, where you spent your undergraduate years. Because of the Covid-19 pandemic, the heavenly Huntington Library has already been closed to readers for more than two months. I stay at home as much as possible with my family members. Other than vegetable gardening and table tennis playing, I am mainly working on my several writing projects. As an independent scholar, it doesn't sound too bad, does it? But still, I long for the real interpersonal communications and I really miss being a traveller - maybe I was born to be a nomad. Looking back, my wandering journey started from Peking University and the first stop was the University of Cambridge.

I arrived at the Department of History and Philosophy of Science as a one-year visiting scholar at the very beginning of Michaelmas term of 2008. I remembered the moment that you introduced me to your crew at one of the Darwin Correspondence Project offices in the University Library. You said, 'Guess what, she has done her PhD dissertation on Robert Chambers!' Following the intellectual history approach, my dissertation investigated the relation between the idea of evolution and the idea of progress behind Chambers' evolutionary theory. Then, your *Victorian Sensation* opened the door for me to the rich and marvelous realm of cultural history - in some sense like the 'tangled bank' in Darwin's vivid depiction. And the historiographical novelty proposed by you in 'Knowledge in Transit', rather unexpectedly, led me into a new understanding of Darwin in China, which relating new forms of communication to the adoption of evolutionary ideas at the turn of the twentieth century China. I was happy to have an article published in English later on, enriching the scholarship on the making of Darwinism in transnational and global contexts. I really have been fortunate

in terms of being the right place at the right time: the 800th anniversary of Cambridge, the 2009 Darwin year, and most importantly, with you as my mentor.

My experience at Cambridge has been extended through further connections with you, especially through Darwin Now Networks grant awarded by the British Council. This program then led to the 'Darwin in Communication' Conference in 2010 in Beijing. In addition, it fostered academic visits from British and Chinese scholars, book exchanges (English books to the Peking University Library and Chinese publications to the East Asian History of Science Library, Needham Research Institute), as well as focus sections of the *Journal of Cambridge Studies* (retitled as *Cambridge Journal of China Studies* in 2014). I believe many students and scholars benefited from these activities. Without your vision and efforts, they would not happen.

It was such a pity that there was no chance to host you and Anne in China before I resigned from Peking University and moved to CA last year. I love sunny California for sure, but I do miss Cambridge. My last visit was 2015 — a long time ago. Every time I left Cambridge, lines from Zhimo Xu's *On Leaving Cambridge Again* would echo in my heart:

> I leave quietly,
> Just as I came, quietly;
> I ripple my sleeves,
> Not taking away a single cloud.

I didn't take away a single cloud, but lots of fond memories of you and Anne. The feast at Christ's college, the white-rose wall of your lovely home, cakes like work of arts, the Pink Floyd badge, the very English Manor at Hemingford Grey... Not only Cambridge, but also museums at Alexandria, the Abbey park search at St. Andrews, endless steps to the Villa Dohrn at Ischia... And your sudden and ironic humors: 'I hope it doesn't mistake "vampires" for "empires"', 'chocolate covered ants' from an imaginary Chinese menu, 'I will be wearing my dinner jacket, black tie, and gown, so you might not recognize me in the disguise', 'Like Cambridge, Oklahoma is generally pretty flat, so in that way at least you will feel at home', 'I need some gelato to calm down', 'People will find me holding a salad plate' after the volcano erupts, 'It would be fun to have such an interesting project on the joint celebration of Darwin and Burns in 1959 in China, though it might take me a few weeks to learn Chinese'... I hope you are laughing while reading these words now.

Oh, at the very moment, I need to laugh so badly, in the midst of those depressing news. Believe me, the most deadly virus is not the SARS-CoV-2, but the hatred and fear everywhere. I had the privilege to interview you in 2009. You shared your fascination about disciplinary boundaries, your formative years at Princeton University in 1970s and Cambridge in 1980s, and your insights on history in general and history of evolution in particular. You commented, 'We live in a historical world: why do we have separate countries, why do we conduct debates in the way we do, why do we think science and religion are inherently separate? These questions all have historical answers, and have occurred through historical processes. Unless we understand that, there is no way we can change the future. It is important to give students a sense of history, and hard for most of them to get it these days because everyone is continually presented with the idea that the world is continually re-invented on the twenty-four hour news cycle. Clearly, it is not. I think we need to reinforce an understanding of the significance of history.' Yes, indeed.

I wish you and Anne every happiness for this exciting new phase in your lives! With profound gratitude for your mentorship and friendship!

Haiyan

Jon Topham

Charles Darwin's Lost Correspondence – The Secord Collection

I recently stumbled on a transcription of a collection of letters purporting to have been written by Charles Darwin. Concluding from the crudity of the attempt that these must be fakes, I have not bothered to alert the team of the august Darwin Correspondence Project to their existence. Nevertheless, since they illustrate in an engaging way some of the diversity of ways in which Jim Secord's remarkable research has forged new pathways in the history of science, and since I find myself quite unable to do full justice to either his brilliant scholarship or his wonderful qualities as a colleague and friend, I thought it might not be inappropriate to contribute them to this celebratory volume, in the character of a jeux d'esprit.

1. From CD to Erasmus Alvey Darwin, [30 October 1822]

[Shrewsbury]
Wednesday

My dear Erasmus

I enjoyed hearing about the shop of D^{r} Clarke's assistant I wish for so many things but will write soon to ask you—

You will never imagine what I found in papa's library. There was an old copy of Tom Telescope's Newtonian system— It is more than fifty years old! and so different from the copy that you gave to me. In papa's copy, Tom Telescope is just a boy And there is a character called the Duke of Galaxy And another called the Countess of Twilight!! How philosophy has changed— You will laugh when you see it

Pray write soon. but not too long
My dear Erasmus | Yours most affectionately | C. Darwin

2. From CD to Caroline Darwin, 14 February 1827

Edinburgh.
Feb. 14th | 1827

My dear Caroline

I found your delightful letter when I returned from a very stupid field lecture by Prof.r Jameson at the Salisbury Crags that stand over the town— He kept us shivering for over an hour, telling us the greatest deal of nonsense about how certain of the rocks were deposited as sediment, though Dr. Hope last year convinced us all that they must have come from beneath in a molten state. You will remember how well I liked Dr. Hope's lectures. Prof.r Jameson gives lectures on both zoology and geology, but while he is very learned, his lectures are often dull and dry.— Still, I am learning many things about the order of the layers of rock (called strata) and about how to distinguish them and describe the minerals of which they are composed. One of the most interesting parts of the subject is looking at the many specimens in the College museum, especially the fossils or petrified animal remains.— The curator, M.r Macgillivray, though he is not quite a gentleman, is very kind and interesting, and he has even given me some rare shells. When I think about my collecting as a boy, I knew so little of geology!

I find I cannot finish this letter, for my fingers are quite frozen and will not move— pray let me know in your next how Eras. fares, for I have no news.——

Love to all | Your affect., Dear Caroline | Charles Darwin

3. From CD to Charles Lyell, [11 March 1837]

43 Grt. Marlbro' St.

My dear Mr Lyell

I wrote yesterday to tell Mr Whewell that I cannot accept his kind proposal that I should take the office of one of the secretaries to the Society.— I am so very busy with the account of our expedition and the work of producing a digest of our meetings

would be such a demanding one that I doubt my competency to it. In the few months since my return from sea I have learned to see how much of the work of geology takes place in the discourse of men such as yourself and M^r^ Whewell within the confines of our panelled chamber, and it is a heavy burden to have to provide a digested account that can in no way represent the state of our scientific deliberations—

It is true, of course, that it is not only in our panelled chamber that the discourse of the philosophers defies the power of the pen.— I am grateful that you urged my attendance not only at the anniversary meeting but also at M^r^ Babbage's party. His demonstration of 'miracles' using his calculating engine quite took my breath away It raises such interesting questions about the philosophy of creation and puts me in mind of some comments of M^r^ Herschel in that interesting letter that you showed me.— M^r^ Babbage told me that he has written an account of the demonstration for his 'Bridgewater book' which I assuredly will read, though I wonder if it will be expressed with the same freedom—

I do feel the high compliment that M^r^ Whewell has done me, and trust that I may become worthy of serving the Society in the fullness of time—

Yours very truly, C Darwin—

Saturday evening.

4. From CD to Erasmus Alvey Darwin, [22 November 1844]

Down
Friday

My dear Eras.

Thank you again for your kind note.— I sh^d^ have derived great pleasure from seeing you. But you must know how completely the Council meetings leave me incapable of doing anything at all, let alone going into company.—

Your conversation concerning the Vestiges of Creation seems to have exhilarated you, but I promise you that I should have had nothing interesting to say Although I have now finally read the book, I find its geology wrong on many points and its zoology quite shocking I cannot agree that the book sheds any new light on the philosophy of creation— It is very well written, for sure, but it is ill-informed and strewn with errors,

and does no credit to the question.— In any case it is a topic on which it is best for men who aspire to scientific reputation to remain silent—

Ever yours | C. Darwin

5. From CD to J. D. Hooker, 20 March [1861]

Down | Bromley, Kent
March 20th

My dear Hooker

After our conversation it surprised me this morning to see that Churchill has published yet another edition of Vestiges of Creation. There seems to be much justice in Huxley's Shakespearean epigram in the *Westminster* some years ago— At any rate my Book does not seem to have given it the coup de grace.

As you know, I thought from the start that the book's rag-bag of errors and Quinarianism only made it harder to introduce the question of the 'mystery of mysteries' to sober and rational men. The reaction to it was certainly violent, and I shudder when I think of how Whewell and Sedgwick declaimed against it.— The more I think about it the more I realize that the whole affair urged me on to ensure that I could give my theory a sound and sober justification and could answer the many objections that might be made.

There is another way to think of the whole matter and that is that the Vestiges prepared the public mind to receive my Book— With all its many faults it offered a striking and most readable account of the introduction of new species by means other than independent creation.— I think, therefore, that it removed many prejudices on the subject, particularly among a class of readers not accustomed to philosophical questions.

While once I cursed it, on reflection I now consider that the publication of Vestiges probably spurred on the establishment of the doctrine that species have not been independently created and perhaps even of my own theory of descent with modification.— But only time will tell how history will judge us all—

My dear Hooker | Ever yours | Ch. Darwin

Mauricio Nieto Olarte

Bogotá, August 19, 2020.

Dear Jim,

this letter has a very simple point: to say thanks, to express an enormous amount of gratitude.

It's been a long time (30 years) since I arrived at London for the first time, insecure with limited English but full of enthusiasm to start a master's in History and Philosophy of Science. It was summer when I met you for the first time at your office at the Imperial College in South Kensington. You were generous and kind and said you had enjoyed reading an essay I had sent with my application to the program. It was on Darwin, something about the philosophical consequences of Darwinism that I hope you don´t remember. This very first conversation was a warm and stimulating start of a fruitful relationship. Five years later I was receiving my Ph.D. in history of Science. Since then, I´ve had a wonderful life, reading, teaching, and writing about the history of science in imperial contexts.

I was very lucky you supervised my thesis on Spanish botanical expeditions to the New World, a subject I´m afraid both of us knew very little about. You help me with the application to the Wellcome Trust and I (we) won a scholarship that I am sure changed my life. How many and wonderful hours I spent at the 'American Room', a spot at the Wellcome Library specialized on American medicinal plants.

I clearly remember the day you told me I had the Wellcome grant. I was then at Beit Hall, a very old and beautiful students' residence next to the Royal Albert Hall. I remember very clearly a note I found in my room asking me to phone you as soon as possible, the handwriting note said something like 'we hit the jackpot'. First I thought my mother was sick or I had failed my master´s exams. (I had to look up in the

dictionary what a 'jackpot' was) I did phone you from a public telephone and you were as happy as I was with the 'Welcome' decision.

I will never forget Imperial, the extraordinary teachers I had. Pyo Rattansi, Rob Iliffe, Roy Porter, and many others, but it was you I was asking questions about where to go in that rich and swinging debates among history, sociology and philosophy of science. Once I expressed my concern about devoting too much time into Spanish botanists when my general interest in philosophy and history of science was wider. With a smile you said it was OK, that I was really working on science and power. It sounded nice to me. You were right and that is precisely what I have been teaching about all these years. Recently I finished a book on which I spent almost ten years, it is a kind of textbook for my general courses on science and technology with a sort of pretentious title. 'A history of Truth…' I guess is a book on the history of Western Science, but I wanted it to be a book about Empire, about Eurocentrism and a sort of political history of science. Even though I published it long after I finished my PhD, your name had to be in the acknowledgements. One of the central theses of the book is about knowledge circulation, 'knowledge in transit' we could say. As a historian I'm sure I learnt many things from you, my insistence on the crucial importance of knowledge circulation is just one example. I hope you received a copy.

At Imperial College you didn't have so many PhD students, I remember Pat Fara and Emma Townshend, and of course you had many duties and projects, but you were incredibly generous with us. I think I was finishing my first year as a Ph.D. student when you had a job offer from Cambridge, we decided that I could go with you as a Visiting Scholar and thanks to that I had a wonderful two years at the dynamic HPS right in the heart of a peaceful and quiet Cambridge. Yes, I know, there we had pubs and lots of frequently drunk young people, but compared with the 8 million people city and frenetic life of Bogotá where I had lived all my life, Cambridge seemed to me an idyllic and almost unreal intellectual paradise. I had the chance to attend seminars and conferences by many people I admired. I attended a seminar on sociology of science with Simon Shaffer, that was fun. I took a course on imperial history with Anthony Pagden, I never missed Latour's visits, or Andrew Pickering's mangled ideas and I regularly visited Ludwig Wittgenstein's tomb. How could I forget the Natural History Cabinet, regular meetings on natural history that I always enjoyed and from which a learnt a lot.

We had long conversations almost every week that always ended with a piece of paper, like a doctor's prescription, in which you annotated some references to read.

Apparently, you were reading and learning with me about the history of 18th century botanical expeditions. I'm not sure if it was common among English or North American scholars to be so devoted to students, but I learnt that from you. I always say to my students I wish I could help them in a similar way. I have supervised a dozen Ph.D. thesis and many other monographs on the history of science, but I always have the impression of having very little time for them.

When I came back to Colombia and was offered a teaching position at the University of los Andes in Bogotá, there was very little professional activity in the field, I was the only one at the history department working on science and technology. It has been rewarding to contribute to build a growing tradition on history of science in the region.

I'm not sure I told you, now I am Dean of the Social Sciences Faculty, which in the middle of COVID´s restrictions has been a crazy job with little time for research, but I´m still teaching a big undergraduate course on the history of science with 200 students. With time my teaching has moved away from classical history of science and I talk a lot about religion, art and politics. I really love my job; if I won the lottery and I could do whatever I like, I'm afraid I would do the same.

Finally, I should tell you I decided to return to my first love in history of science: evolution. I doubt I will find something really new on such a trite topic, but I just want to do it. The idea initially was to concentrate on the Darwin and Wallace travels, and the role of their new world's experience on the idea of evolution.… we'll see what comes from that, it doesn´t really matter as far as it is fun. At least I hope I will be able to offer a new course on the history of evolution.

The thing is that recently I rescued my books and notes on the subject. The notes have a nice title, 'Travelling in time on the H.M.S. Beagle'. Well, here you are again. It has been an opportunity to re-read some of your work. I just finished your introduction to Lyell *Priciples of* Geology and I am looking forward to read about Chamber´s *Vestiges* and more about geology and evolution.

I am also travelling in time.

Always in debt, always grateful to you, I wish you the best and hope to read more of your work.

Your devoted disciple,

Mauricio Nieto

Paula Gould

Sheffield, S. Yorks,
25 July ~~1885~~ 2020

Prof. James A. Secord,
Christ's College,
Cambs.

Dear Sir,

I write – rather belatedly, I must confess – to thank you most kindly for the excellent supervision I received whilst undertaking study towards a PhD qualification at the University of Cambridge.

It is hard to believe that more than 20 years have passed since that work was completed, the thesis bound and posted to examiners (then posted again due to the vagaries of the American postal system), and finally discussed in a nerve-wracking viva at Free School Lane. It is due to your guidance, encouragement and constant querying of my 'theoretical framework' (or lack thereof) that the final narrative passed muster. Thank you.

Without wishing to sound too forward – a trait not always favoured in ladies – I recall anticipating our afternoon supervisions with considerable eagerness. Yet if I am honest, perhaps it was the **location** of those meetings, rather than the opportunity for intense academic discourse, that I particularly relished. I don't remember the name of the teashop in question (on Botolph Lane or Pembroke Street, I believe) but I have distinct memories of the excellent poppy seed cake. How civilised it seemed to a would-be bluestocking to be taking afternoon tea whilst 'working'. Café supervisions are no doubt frowned upon by the University authorities in these more utilitarian times.

On reflection, I see now how your approach to supervision kept me focussed on academic scholarship (and not **too** distracted by storytelling…) without dampening my enthusiasm throughout those three years of endeavour. It must have felt at times that we were knitting together a patchwork quilt of odd-shaped pieces. Maybe that is the nature of research. It was certainly a blessing when all the bits were finally assembled and the remaining joins smoothed over.

Sir – it is deeply regrettable that the scourge of Covid-19 means that I cannot wish you a happy retirement in person. This is something that I sincerely hope rectify once it is appropriate so to do.

If it so pleases you, and once travel restrictions have eased, if you decide to take a tour of the more northern and mountainous parts of the country, you would be most welcome for afternoon tea at our modest residence in South Yorkshire. Lockdown has afforded the opportunity for much baking practice and it is now highly unusual for the cake tin to be empty.

The geology on the outskirts of Sheffield may lack the grandeur of Snowdonia or the Lake District. Indeed, I don't believe that the Sedgwick Club travelled here on one of their annual field trips. We can, nonetheless, promise a true Yorkshire welcome to any visitors who happen to stop by.

With that invitation made, it simply remains to sign off this note with my very best wishes.

Yours sincerely, Paula Gould (Dr)

Sarah A. Qidwai

A Note on the Occasion of Jim Secord's Retirement

In 2019, when we were first approached to submit something on the occasion of Jim's retirement, I felt a little out of place. At that point I didn't know Jim outside of his publications. So, I might have submitted my thoughts about *Victorian Sensation* or explained the importance of 'Knowledge in Transit.' I might have said some polite things about meeting both Jim and Anne at the BSHS PG conference at Cambridge.

It is incredible what a year can do and the impact someone can have in that time.

Now, more than a year since we first met, I consider Jim an important influence in my PhD journey. As probably one of the newest contributors to this gift, I want to say that I am grateful to Jim for the opportunity to spend time in Cambridge and continue our many discussions after from different parts of the world. My term at Cambridge marked the first time in my life I've ever spent an extended period of time away from my family and everyone around Jim just made it comfortable and enjoyable.

You can really understand an academics' political views based on the students they choose to supervise. Every single one of Jim's students have contributed in such a positive way, regardless of how big or small. As someone who did not have a lot of support at the start of graduate school, I am so glad I was adopted by Jim and his students. Furthermore, learning of the friendship between Jim and Bernie makes me hope that our generation can continue on the tradition of friendship, constructive feedback, and generosity that they share as we move from the Victorian period to the long and 'Global' 19th century.

I am glad I got to know Jim as he is starting another phase in his academic career! An end is just an excuse for a new beginning.

Wishing you nothing but the best and I am looking forward to sharing more of my work as it develops.

Soraya de Chadarevian

Writing more books, traveling the world (when that is possible again), or just having time – whatever you plan to do, I wish you a very happy retirement.

Soraya

Los Angeles, 30 June 2020

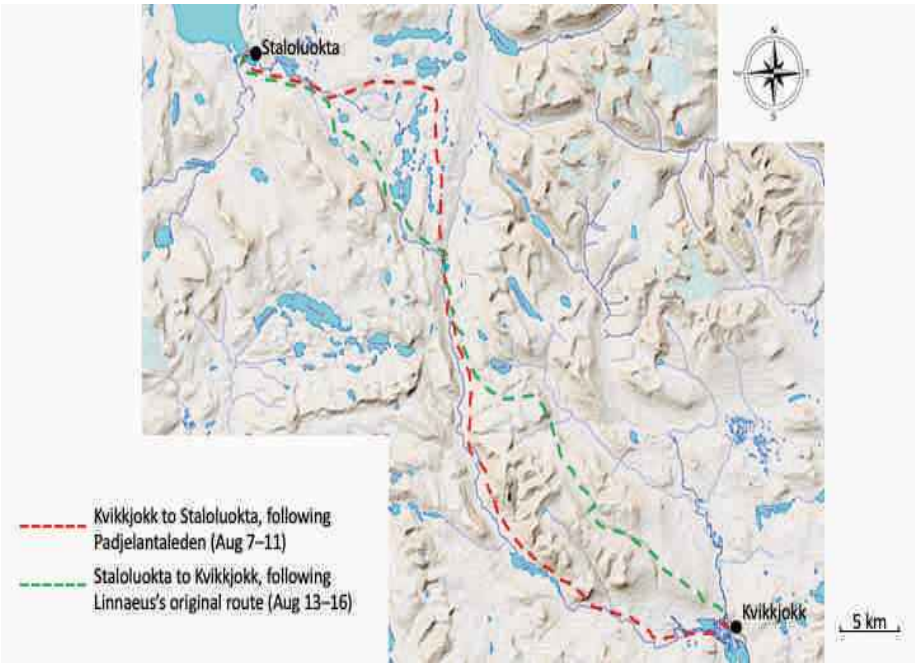
Staffan Müller-Wille and Elena Isayev

London, 6 September 2020

Dear Jim,

We're just back from another trip to Lapland where we've been re-tracking Linnaeus's Laplandic Journey from 1732. As you know, we've been working with your ideas about Knowledge in Transit to articulate our project of using Linnaeus's travel account and understand how knowledge is created through intersections between people on the move (see https://linnaeus-in-lapland.net/). This year's trip was another iteration, which took us up into the Laplandic fells of Padjelanta National Park, part of today's UNESCO World Heritage Area 'Laponia'.

Here's a little sketch of the route we took:



You'll note that we went from Kvikkjokk, a small community where several hiking trails meet, to Staloluokta at lake Virijaure – a Sámi summer village used by reindeer herders and for fishing – and then back to Kvikkjokk again, but following a different route. The way up took us along the Padjelanta hiking trail, nicely marked out, and with cabins along it, should one not want to camp in a tent (for example in gale-force winds!). The way back was our attempt to follow Linnaeus's original route, known today as Prästleden (priest's path), and an important trade route at his time, especially for the transport, by reindeer, of silver-ore mined in the late 1600s.

Our experiences on these two routes were strikingly different, in a way that highlights the importance of communication for the creation of knowledge. We thought we'd share some of these with you, not least because it would be great if you could join us on our next journey!

On our way up we chose to follow what today is the official trail, to give us a chance to get used to the terrain (and ease the weight of food in our packs, though the wild mushrooms and berries didn't aid that). We also wanted to make sure to reach our destination in time. Five days of steady walking along a safe route, allowing time for pause and reflection, we thought should be enough to make sure we arrived in time for a pre-arranged meeting on August 12 with Katarina Parfa Koskinen – a reindeer herder who also runs a kiosk in Staloluokta and is a PhD researcher in Education at Umeå University, investigating cross-boundary teaching of Sámi language.

The first bit of travelling was done by boat. Björn, the ferryman, took us to the start of the Padjelanta trail, telling stories on the way. He showed us the island on which Linaneus had been hosted, incidentally by Björn's ancestors of 10 generations ago. He also gave us a first idea of the route Linnaeus had taken across mount Vállevárre, which now overlooked us. Curiously, he was keen to learn, in return, whether there were any traces left by Isaac Newton in Cambridge, whose genius he greatly admired.

The story-telling begun here continued throughout our route to Staloluokta, at times with fellow hikers who passed us, or ones we met fishing their way up the mountain valleys, and especially with the hosts who looked after the cabins. This latter group was of an interesting makeup. The first three cabins were run by the Swedish Tourist Association, and hosts were recruited from all over Sweden, some making it their annual get-away from city-life. None of them knew Katarina, but all had heard about Linnaeus and some were aware of Prästleden.

This changed markedly when we entered Laponia, where cabins are run by the Sámi Association involved in the management of Laponia. Elisabeth at Darreluopal cabin

asked us to send her regards to Katarina and that she was missed. We wondered if the reindeer wandering around were Elisabeth's or belonged to someone further up the valley. Andrew at Duottar cabin, interestingly, referred to Prästleden as Linnéstigen, or Linnaeus's path, and had heard it was beautiful. The hosts of the cabin at Staloluokta had actually walked the trail to Kvikkjokk and knew its shortcuts. Bringing these stories together, it was Katarina who finally could provide us with detailed information on the route, with assistance from her aunt. Her family has been living in the area during the summer season since the 1920s, when the Swedish authorities forcibly relocated them to Padjelanta from further north, a result of nation-states flexing their muscles by enforcing physical borders. We talked a whole day with her about the politics of knowledge, identity and borders, and the role Linnaeus's account of Lapland might play today. She also knew Björn.

Equipped with a good sense of the route for the Prästleden, we set off on our way back to Kvikkjokk along the path Linnaues had allegedly taken. This led through two stone-strewn valleys flanked by steep, dark mountains reaching up to some 1800m. The landscape was much bleaker and more oppressive than the lush, tree and flower-filled valley we passed through on our way up, which several people referred to as 'jungle'. Flowers were a rarity now, what trees there were creeped along the ground with their miniature leaves. The path was hardly discernible, only partly marked out by pairs of standing stones or cairns (see photos, facing), some of them apparently very old, as Elisabeth confirmed.

Linnaeus himself had relied on two guides, and a servant, when making his way along here, and without the knowledge we had gathered and the occasional way-markers we would have struggled to find our way as well. We passed only two pairs of walkers on this stretch over three days, and only spoke to one briefly who indicated that the path was harsh, and the stony ground made it difficult to camp. The main joy on this part of our journey was the sighting of a Ptarmigan in the middle of the stone-fields of Vállevágge. On noticing us it made no effort to flee, but shuffled around on its feathered feet, seemingly unperturbed. Was it the very same ptarmigan of which Linnaeus wrote that he 'could have killed a hundred times over without difficulty', but then didn't out of concern for its chicks?

Surprisingly, and this is what we wanted to share with you, we learned much more about Linnaeus's journey on our way up to Staloluokta along Padjelantaleden, than we learned by following in his 'footsteps' on Prästleden. Knowledge, as you have shown, only comes into being through communication. Despite not being the exact

path Linnaeus had followed, we felt our experience on Padjelantaleden reflected much more his own, as what we learned about the landscape and its layered depth of natural, cultural and political history came mostly through conversations with our modern-day 'guides', including information-boards set up by the management of the national parks. Curiously, the name Staloluokta refers to stallo, mythical troll-like creatures in Sámi folklore identified with remains of ancient dwellings one finds all over Padjelanta (we had camped on one of these, just 2 km West of Duottar cabin, as we discovered on the following morning). Naming a dwelling after these mythical figures implies there is no place without traces left by previous inhabitants for others to read. It makes more glaring Linnaeus's construction of Lapland as a 'terra nullius', a fiction that his own travel diary negates. We need to explore these juxtapositions further with those who know better on our next trip.

They brought to mind a further question – which (hi-)stories are we getting involved in, if we take knowledge to essentially result from communication? The history of nations as Sweden who sent explorers like Linnaeus to subject remote landscapes to their colonizing gaze? The history of the people who guided and hosted him through Padjelanta and beyond, and shared with him what they knew about nature and its uses? The history of the current inhabitants of Padjelanta? But where and when do they see their history beginning? In the 17th century, when the first Swedish settlers arrived in the region? In the eighteenth century, when the reindeer economy was flourishing in Padjelanta and the Sámi were key traders between Sweden and Norway (under Danish rule)? Or in the 1920s, when Sámi families currently herding reindeer in Padjelanta were forcibly moved there? And who is included in this history? Hosts watching over a cabin for only a few weeks during the year, or students on a summer job in the tourism industry? Hikers who visit the area for recreation like the two molecular biologists at the University of Malmö, both from Italy (but one born in Russia)? Researchers like ourselves, or the unfortunate team of scientists caught in a stonefall along Prästleden? Or are we left with the story of those 'stallos' whose dwellings remain and who, perhaps 50, 300 or even 3000 years ago, put up large stones to guide people like us, generation after next, through the landscape?

These are, of course, rhetorical questions, the answers to which we leave open in our project since any final answer would end conversations and preclude the kind of history of knowledge your work has inspired. We hope that they suffice to entice you to join us in person on one of our future wanderings.

With our best wishes for journeys and arrivals lying ahead of you,

Staffan & Elena

PS: Linnaeus's travel account is available in an English translation by Peter Graves from University of Edinburgh Press (currently out of print). Otherwise, James Edward Smith's 1811 translation is available on-line. You will know Lisbet Koerner's book *Linnaeus: Nature and Nation* (Harvard Univ. Pr., 1999), which describes Linnaeus's colonial vision of L.apland. There is a recent historical study of the little-known forced relocations of Sám by the Swedish state: *Herrarna satte oss hit* [The Masters Placed Us Here], by Elin Anna Labba, Norstedts, 2020. On the stallo, see Lars Ivar Hansen and Bjørnar Olsen, *Hunters in Transition: An Outline of Early Sámi History*, Brill, 2014, pp. 82-93.

Waymarkers along Präsleden, Padelanta (Sapmi/Sweden). In the lower picture, a pair of waymarkers is just about visible on the horizon.

Tim Lewens

Dear Jim,

I wanted to thank you for the remarkable support and warmth you've shown to everyone you have worked with in the 28 years you have been in the department. When you first arrived in Cambridge in 1992, I was just starting out as an undergraduate. I didn't come to work in HPS until 1998, but I have a vivid recollection of a good friend of mine telling me (a quarter of a century ago, in 1995–6) about his wonderful Pt II dissertation supervisor, the amazing Dr Secord.

Jump 10 years later, and you were kind enough to give me invaluable feedback on my amateurish philosopher's attempt to write about Darwin. I was nervous sharing this work with someone who knew about this material in so much detail, and you boosted my confidence (over coffee in Trockel) with the verdict that the book was indeed recognisably about Darwin. And you may not know this, but your work on Darwin on pigeons inspired one of my papers.

Jump forward another decade, and you flattered me enormously by inadvertently referring to me as 'Peter' when you introduced me before my inaugural. It was a pleasure to think that I had somehow invoked memories of Peter Lipton. (I assume, given my shaky Darwin knowledge, that it wasn't Peter Bowler you were confusing me with…) You were a reluctant Head of Department (and who wouldn't be), but you were also an exceptionally popular one. You were also extremely effective in the role: I never ceased to be amazed by your ability to negotiate a brilliantly advantageous deal, without the slightest visible sign of Machiavellian intent. Your style was inclusive, patient, good-tempered and gently humorous. And you had a quiet but effective ambition to do the best for the Department as a whole and for all who worked there. Finally, in the past year or so it's been a real pleasure to see a little closer-up all of the ground-breaking

work you have been doing with the Darwin Correspondence Project.

It's such a shame that COVID has stopped us from celebrating your career in the ways we would all have wanted – getting together, chatting, eating, drinking and reminiscing in beautiful surroundings. But there will be time for that later. And, in the meantime, your election as a Fellow of the British Academy must be one of the nicest retirement gifts anyone could hope for.

Jim: thanks so much for everything,

Tim

Will Carruthers

Corresponding with Jim

To have had Jim Secord as supervisor was to be supervised by someone who cared—and who I've been able to count on to keep caring for years afterwards. I was a nervous doctoral student who needed that attention, and I was lucky to have received it. Needless to say, I have been grateful for it ever since. Thinking about writing this piece during the current pandemic, it has seemed especially important that we all express our gratitude when we can. I hope, then, that this short reflection goes some way towards making my own thanks to Jim clear. Forgive me the strained references to books and reading that I've used to try and tie what I've written together, but so many of my own memories of Jim seem to be connected to those things that I had to make the effort. Think of this as an acknowledgements section about one person, then: a piece of correspondence about working with Jim buttressed by the objects and practices that helped that process along.

If I remember correctly, Jim once told me a story about how, spotting a typo on the first page of one of the volumes of *The Correspondence of Charles Darwin*, he had managed to have the entire print run pulped. At the risk of damning him with a backhanded compliment, if anyone else had told me this story, I might have wondered why. Characteristically self-deprecating in relating the tale, however, with Jim it seemed indicative of someone who knew what academic work could (and should) be worth, and who it was clear would also do what was necessary to support his students. Just before I submitted my doctoral dissertation, as he spent his weekend reading it over once again, both that care and that effort on Jim's behalf seemed inestimable. Needless to say, he told me about any issues he did find in the work ¸in ways that made correcting them seem painless: I was not going to get pulped.

Jim, I think, read me and his other students like a book: as something that of necessity

should be treated not only with great care, but also given various other types of attention that helped whatever stories we wanted to tell be told, and whatever stories we might be capable of telling flourish (even when, sometimes, my own attempts at relating them obviously left something to be desired). During one supervision, discussing something he thought I should read, Jim told me that it was typical of him to have forgotten the title but remembered the author and the publisher. It was that ability to see the good in—and the importance of—people, not to mention the value in what they wanted to do (and where it might best be published!) that made Jim such a good supervisor. Students and their futures mattered (and you knew Jim could remember the book's title really).

Jim also remembered you even if you were long gone from Cambridge. Struggling through researching and writing my own book in the last few years, Jim has continued to listen, read, and provide advice when I've asked for it. He has also written countless references and read the many, many grant proposals that have been connected to that process. I'm not sure that every other supervisor out there would have done any of that, and nor did Jim have to. Over coffee, lunch, or simply over email, Jim has continued to provide the advice, balance, and reassurance that all of us need, but I'm sure we all forget to value sometimes. Keeping in correspondence, as Jim's own work has reminded us again and again, is what really matters.

Sometimes, of course, that correspondence happens in transit. Some time last year, I was having a drink with a friend in a pub not all that far away from the British Library and King's Cross. It was a Friday evening, and the place was packed, noisy, and filled with people who had just come from a wedding. In amongst all the hubbub, I briefly turned around and saw Jim. Obviously, I almost jumped out of my chair in surprise. Then, though, I did go and say (or shout) hello, interrupting Jim's conversation, and with both of us struggling to hear each other over the noise. To his credit, Jim actually tried to have a chat with me, even despite the din. I'm not sure that either of us really heard anything, of course, but I think it's typical of Jim that he would at least try and talk to a blundering former student interrupting his day. We all know someone who wouldn't.

That, I think, is the point. Jim has always had time for students even when others would long have given up on them. He has fostered an atmosphere not just of collegiality and astonishing research and teaching activity, but also one in which students—even nervous students, like me—feel like they are valued and have something to say: by doing so, he has helped to shape a field, and also helped countless people find

meaningful direction in their life. Still, someone else has already written everything I've set down here, and done so much more pithily. In her own acknowledgements section in *Knossos and the Prophets of Modernism*, Cathy Gere wrote that 'Jim Secord untangled the more tortuous knots of my labyrinthine research with his characteristic combination of geniality and rigor'.[1] That, really, is my point (and much better put). My own labyrinthine research and writing has benefited from that same geniality and careful rigor, and has done so for a decade. Any knots left are all mine. Thanks, Jim.

1. I thought this piece deserved at least one footnote, so: Cathy Gere, *Knossos and the Prophets of Modernism* (Chicago and London: The University of Chicago Press, 2009), ix.

Epilogue

Sadiah Qureshi
Migrant Transits, Global Knowledges

Dearest Jim,

These tributes started arriving in spring and continued through the strangest summer many of us will ever live through. Amidst daily doses of unhappy news, they could not have been more welcome. Poring over these moving expressions reinforced what I already knew from so many conversations in the coffee room, conferences and garden parties. You are cherished by an extraordinary community of scholars around the world who were overjoyed by the chance to celebrate you. From brief encounters to collaborations lasting decades, each contribution bears witness to a stellar career that has changed our discipline globally but, equally important, a profound kindness and generosity that has changed many lives for the better. Editing this collection was an immense privilege and delight. I hope this gift marks a wonderful new beginning for you and for Anne. As the person with the last word, I want to share an unexpected journey and joyful ending.

I first visited Cambridge in the summer I turned fifteen. In my imagination, the university and the city were amalgamated into an abstract hallowed home for the world's best scholars. As so many other pilgrims, I picnicked along the Backs and visited the Wren library to marvel at Newton's *Principia* and Milne's *Winnie the Pooh*. I left enchanted by these glimpses of sunlit limestone, worn stone steps and priceless manuscripts. That romantic notion stayed with me as I applied to read Natural Sciences at Christ's College and, ultimately, to the day I arrived.

Those illusions meant I came up utterly unprepared for the reality of undergraduate life. The fantasy of high table, gowns and beautiful libraries swiftly shattered. Negotiating the transition from a large multicultural city to the entrenched whiteness of an ancient

English university left me disorientated and disillusioned. Meanwhile, I detested lab work and regretted not reading English Literature. In my first year, the strength of my disappointment matched my original desire to study at the University. I might easily have graduated in the new millennium and fled. Yet, as with so many other students reading Natural Sciences, I turned to the history and philosophy of science in my second year and everything changed.

I can't remember when or why I first climbed the stairs to visit your office. I imagine a worried student eager to consult you about an essays. After knocking and hearing 'Come in', I entered and introduced myself. I know that one of the first questions I ever asked you was if all those antiquarian books were yours. I was astounded that they were. Over the years, I visited your office countless times. There, all that I am and care for unexpectedly transformed. I came up to Cambridge hoping to achieve a degree. I left with a life that is unrecognizable from anything my younger self or family imagined, let alone believed, possible. Aptly, my library traces that transition.

My library is the heart of my home and the fulfilment of countless childhood dreams. The library is where I read and reflect. The red bowl you and Anne gave as a wedding gift resides on the oak coffee table, a red heart at the centre of our home. The bookcases teem with volumes on the histories of race, science and empire. At sixth form, I read Isaac Asimov's history of science and Darwin's *Origin of Species*, probably in the same years that I first learned of Sara Baartman. The seeds of my historical interests were sown before we met, but your lectures on 'Science and Empire' germinated them into meaningful intellectual enquiries. Sujit supervised me for that course. One essay led to a discussion on collecting. I remember listening to Sujit patiently explaining how to historicize artefacts. As something clicked, I asked nervously: 'Can you collect people?' Ultimately, that question led to my MPhil dissertation on Baartman, my PhD thesis and *Peoples on Parade*. Under your supervision, they all interrogated the legacies of who counted as human in the past as I contended with strangers encountering my alterity in the present.

One bookcase materially represents so many of our conversations and exemplifies my intellectual path under your guidance. Books and artefacts stand in dialogue. The shelves teem with the antiquarian writings of naturalists, such as Darwin, Huxley and Tylor, that I explored in my thesis and first book. They are interspersed with travelogues and novels, most notably Eliot's *Middlemarch*, whose worrying relationship with Herbert Spencer I untangled in my undergraduate dissertation. Models of Tipu's Tiger take centre stage, an MPhil essay that took over a decade to be published as my

favourite article. Many of your gifts, such as *Parley's Picture of the World* or *The Living Races of Mankind*, jostle for space with fossilized ammonites and a tiny keichousaurus, the same species I gave you. The top shelf is filled with my writing about the ideas and artefacts housed below. An expectant gap awaits my next book on extinction, which I began as a postdoctoral fellow under your mentorship. These realized dreams would never have existed without you.

Last summer, I attended the graduation ceremony for the first PhD student for whom I served as lead supervisor. I've known her since her first year as an undergraduate. Recently, she took up her first lectureship. Bearing that responsibility for others continually sharpens my appreciation of the myriad ways in which you have supported generations of students. Every day, I strive to be the supervisor you taught me to be without even trying.

In the acknowledgements for my PhD and *Peoples on Parade*, I wrote: 'Working with an eminent scholar is always an honor, but working with Jim has also been an enormous pleasure.' Although true, these words feel as inadequate as when I first committed them to paper: perhaps all words are. My name means blessed (Sadiah) little shark (Qureshi). Throughout my life, kindness and love have bought me immense opportunities and helped carve an unexpected path. In that vein, one of my life's greatest blessings will eternally be that my transit into making knowledge crossed, and realigned, with yours.

With love,

Sadiah