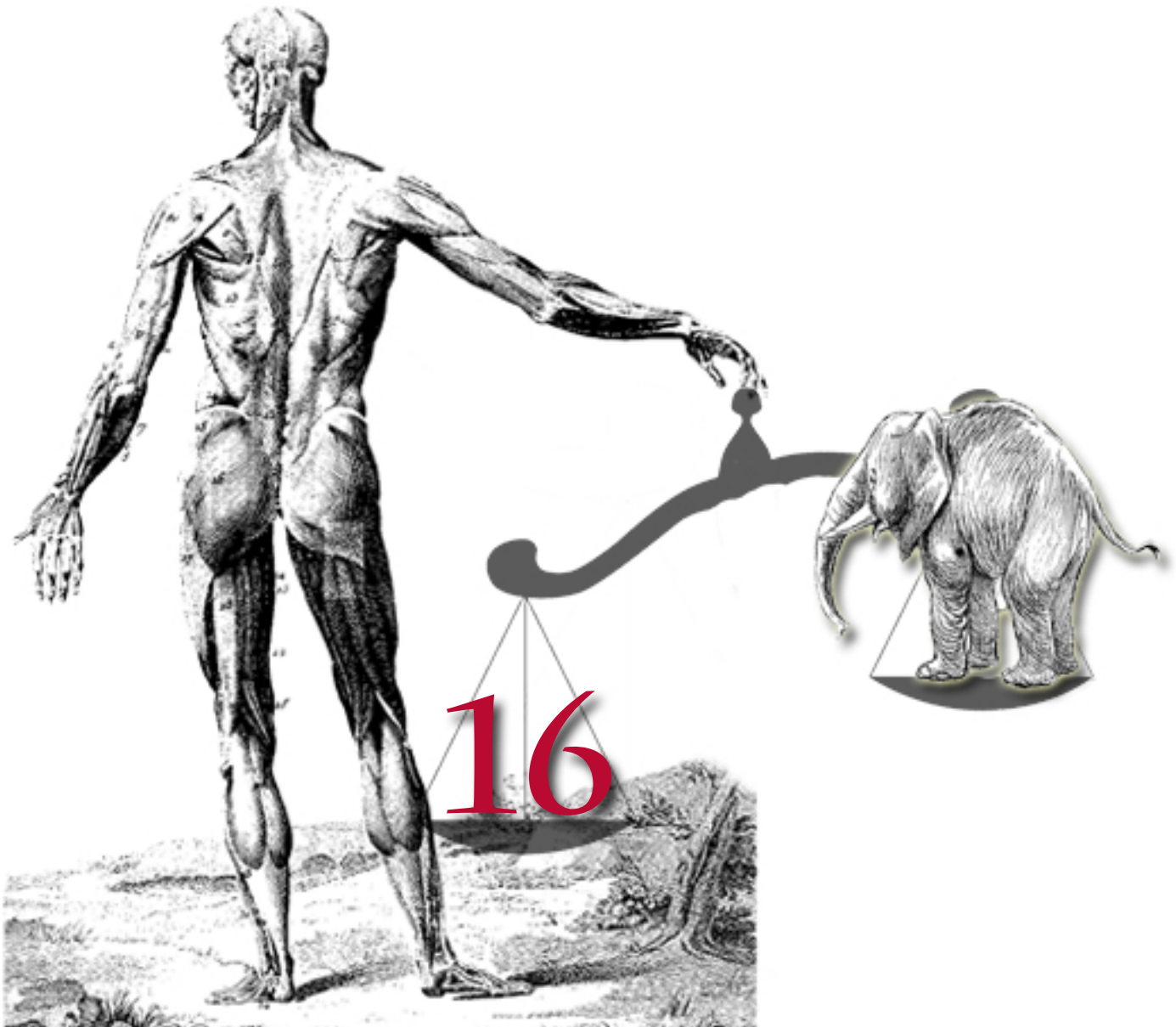


Indiana Center for Eighteenth-Century Studies

Sixteenth Annual Workshop

# Number, Measure, Scale

May 10-12, 2017  
Indiana University  
Bloomington



## Kenshur Prize: Sean Silver, *The Mind is a Collection*

REBECCA L. SPANG

Good Afternoon. I am Rebecca Spang, Director of the Center for Eighteenth-Century Studies at Indiana University and it is my very great pleasure to welcome you to this our ninth annual Book Prize symposium. From a very strong short list, we selected Sean Silver's remarkable book, *The Mind is a Collection*, as this year's winner, and I am delighted that three campus experts on the subject of collecting have agreed to participate in this discussion along with our colleagues from Eighteenth-Century Studies. This means we have a full program and an especially rich one, so I will keep my own comments brief. I do nonetheless, want to introduce our participants and say a few words of my own about the prize-winning book.

We are fortunate on this campus to be home to many and varied collections, from the 1.3 million specimens in the Paleontology Collection and the nearly 3000 mammal skeletons in the Zooarchaeology Lab to the more than 30,000 items that make up the world's largest puzzle collection. We also have many extremely talented colleagues who have spent their careers, at least in part, working in and on collections (work that has no doubt helped to shape their thinking on many other subjects as well). Three of those colleagues are with us today:

Jason Baird Jackson, our gracious host for today,<sup>1</sup> is Professor of Folklore and Director of the Mathers Museum of World Cultures. He has collaborated with Native American communities in eastern Oklahoma for decades, previously served as editor of *Museum Anthropology*, and is the founding editor of the open-access journal *Museum Anthropology Review*.<sup>2</sup>

David A. Brenneman, the Wilma E. Kelley Director of the Eskenazi Museum of Art has a doctorate in Art History and a strong background in eighteenth-century studies (having written his dissertation on critical responses to Gainsborough). Before coming to Bloomington a little over a year ago, he was Director of Collections and Exhibitions at the High Museum of Art in Atlanta.

My colleague and neighbor, Eric Sandweiss, is currently Chair of the History Department (in which he also holds the Donald Carmony chair and edits the *Indiana Magazine of History*). His recently published and very widely reviewed book, *The Day in its Color* was inspired by another of IU's unexpected holdings, the Charles W. Cushman collection of more than 14,000 Kodachrome color slides taken over three decades (starting in the 1930s).

In addition, we will also have comments from two colleagues in Eighteenth-Century Studies, both of whom are well known to many of us. Jesse Molesworth, Associate

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<sup>1</sup> The Symposium took place in the Mathers Museum on the IU Bloomington campus.

<sup>2</sup> Professor Jackson's "Reflections on *The Mind is a Collection*" can be found on his blog, "Shreds and Patches" ([here](#)).

Professor in the English Department, has been a pillar of the Center for Eighteenth-Century Studies since he joined Indiana University in 2009. He is the author of *Chance and the Eighteenth-Century Novel: Realism, Probability, Magic* which was awarded Honorable Mention for the Perkins Prize (given by the International Society for the Study of Narrative) and he is currently working on time, the gothic, and comic books. Joanna Stalnaker (Associate Professor of French in the Department of French and Romance Philology at Columbia University) is also well known to many of us, since she participated in the Center's most recent Workshop (on Eighteenth-Century Futures) and was the winner of the Kenshur Prize several years ago for her *The Unfinished Enlightenment: Description in the Age of the Encyclopedia* (Cornell University Press, 2011).<sup>3</sup>

This year's Kenshur Prize winner is Sean Silver, Associate Professor of English at the University of Michigan. He received his PhD from UCLA in 2008 (after having worked for a time as a carpenter) and he is currently interested both in accidents and in craft. I think it is part of the brilliance of Sean's book that while it was obviously crafted very carefully, the experience of reading it nonetheless feels much more like serendipity. John Woodward, we are led to understand, did not *set out* to become the foremost Augustan rock hound, but became so because of his chance encounter with "a gritty *Pebble* [sic], of a very light brown colour and an oblong, oval shape." Woodward did not have the mind of a collector, until he started collecting. Moreover, in his final published work, he decried "the Man .... who should be perpetually heaping up Natural Collections without design of building a structure of Philosophy." (73-75)

This account of a collection both accidental and highly crafted falls in a chapter—or, a room of the exhibition—entitled "Design" and is on display between Raphael's *Judgment of Paris* and a portrait of John Woodward himself. (*The Mind is a Collection* is also a "born digital" museum, the exhibits of which only partly follow the structure of the book; be sure to [visit it!](#)) The juxtaposition *feels* like a felicitous chance and yet it is certainly anything but. I could say much more about my experience of reading other pages, encountering other "exhibits," but I will sum them up by saying I don't recall when last I encountered a book it was so hard to skim. I never knew *where* Sean's analysis would take me next, how he would further demonstrate the ways that eighteenth-century thought both depended upon and fully rejected the mind-material dichotomy. For the acuity of its close readings, the extraordinary range of its sources, and the genuine creativity of its construction, *The Mind is a Collection* is a most deserving recipient of the Kenshur Prize and I am honored to be able to award that prize now.

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<sup>3</sup> For comments at the Symposium on her book, see [Number One](#) of this journal.

## Thinking with the Camera Obscura

SEAN SILVER

Let me start by saying how wonderful it is to be here today: really wonderful—a thing of wonder. It is invigorating, but more than a little disorienting, to have been working on something in the dark for so long, and then suddenly, to see it dragged out into the light. Thanks to the Center for Eighteenth-Century Studies for making this possible; thanks also to Professor Spang for all her work in putting this event together. And thanks to all of you for investing your time in this book, which I hope you found was worth it.

Darkness and light are my themes, but what is my text? I have been asked to read no more than a paragraph from page 99, and discuss its relationship to the overall argument of the text. As it turns out, I'll be reading much less than a paragraph. My text is the last sentence from the first paragraph on page 99: "The camera obscura was turning up in a different way, not as technique, but as arrangement or design." Okay? "The camera obscura was turning up in a different way, not as technique, but as arrangement or design."

The argument of *The Mind Is a Collection* is simple. We have long known that dualisms are philosophically suspicious. They have been out of style since at least the 1930's (since Arthur Lovejoy and Gilbert Ryle differently pronounced them bad epistemology). But we—professionals and lay-people alike—continue to think as though they were true. Dualisms refuse to go away. The book wants to establish why this might be true, and it does so by turning to the moments, and the traditions, where dualisms sprung into being. It is an attempt at historical epistemology (which, to my mind, is the only kind of epistemology), treating some of the key questions of twentieth-century philosophy as legacies of particular moments in seventeenth- and eighteenth-century Europe. And so, while its questions are thoroughly dualist, philosophical in a tradition of philosophical epistemology, its approach is one of networks, of tracing thought to ecologies of persons and things. If I may put it this way—roughly as I put it elsewhere in the book—"dualism" is a name for certain kinds of networks. It is the name for certain situations or arrangements in which people recognize themselves in their environments: a curator in his cabinet, a philosopher in his library, a numismatist among his coins and medals. And I should say that even the notion of a person in an environment is already such a situation—an artificial distinction registered in what the book calls cognitive ecologies.

The usual way to think of this relationship, the one between people and environments, is to imagine us modeling cognitive processes on physical arrangements: the mind is a cabinet, or a repository, or a microcomputer. But, in the special case of the spaces of thought, of cabinets, repositories, or microcomputers, what we repeatedly find is people organizing their worlds according to how they understood their minds to work. This is a clear case of a dialectic, or, if you like a feedback loop: people organize spaces to match the mental processes that have already been theorized according to their spaces of thinking. This is what I mean by dualism as the state of a network, a name for the state of an ecology. The fundamental split between mind and matter, or thinker and thoughts, is established through a counterintuitive embeddedness, a complex set of relationships in co-evolving ecologies of persons and things.

So. How does the camera obscura fit in? Camera obscura of course means "dark room"—but it is not the darkness, or the room, that is the crucial thing; it is the particular way that it handles light. This is what was important, historically speaking, about the camera obscura; it was one of the earliest gadgets to produce a phenomenon by very carefully restricting the amount of light



that it admits. It is about as simple an optical device as can be imagined: first a pinhole, then, in later versions, a single lens, which throws an image upon a white sheet. Its history as an optical device is well known; the camera obscura gives way to the much brighter camera lucida, which, in turn, gives way to early versions of silver-plate daguerrotypes, celluloid photography, and so on.

The history of the camera obscura as a thing to *think* with has also, somewhat more recently, been established; first offering a model for the human eye, important in the slow phasing-out of neo-Aristotelean hylomorphism, it came slightly later to offer a model for the human mind. Its crucial innovation was to split the observer from what is observed; it offered a visual field as an object to be contemplated. The structure is the crucial thing—or, as I put it at the top of page 99, “the work of the camera obscura is not in capturing details; it is in the design.” The crucial idea, the core concept of its design, is the way that it separates the observer from the sensory field that is observed. This separation produces sensation as something “objective”—itself an object on a screen. And this separation, in turn, gives rise to a model of mind, a model which commits what is now sometimes called the homunculus fallacy: the philosophical position which posits a little experiencer inside the brain, as though sitting inside a theater, pulling controls to make the body move. In such a system, knowledge is understood as *content*. It is precisely for this reason that the camera obscura is among the first technical spaces underwriting the sorts of dualisms which are at the heart of *The Mind Is a Collection*.

Gadgets like these are important to the book and museum that together pose the argument of *The Mind Is a Collection*—and let me invite you, if you haven’t yet, to visit the museum, which can be found at [www.mindisacollection.org](http://www.mindisacollection.org). Each of the objects in the book, each of the museum’s exhibits, offered scaffolding for one or more British thinkers to think about themselves. Of course, here (exactly *here*, on page 99) my point is a different one—the other half of the dialectic that *The Mind Is a Collection* sketches. And this is what is less well known, what I take to be the original insight pursued by museum and catalogue alike. When the camera obscura turns up as an arrangement, it is because its work is the work of scaffolding—the closest term for which, in the eighteenth century, was design. I am thinking here, in an immediate sense, of the layout of images like Jan van Kessel’s many gallery paintings, one of which can be found on the facing page—and it was not just Jan van Kessel who arranged things like this, but others, such as Jan Breughel and Peter Paul Rubens or, arguably, Vermeer or even Alexander Pope. The question here is less about how people imagined the mind to work but, imagining it to work this way, how did they develop rules of aesthetic composition? Or, considering that composition means to “put together,” how did they arrange things—i.e. *design*—in pursuit of one or another aesthetic end?

This question bears on the arts—on the question of how one arranges objects of the senses, according to ideas about how they will be rearranged in experience. But it also bears on the active spaces of thought: how do we arrange concepts or ideas, books or museum objects? What does it mean to turn to a set of representations, rather than looking at the thing itself? For this painting (on page 98) could either be of a physical space, like a collector’s cabinet, or it could be of a mental cabinet; either scenario stages a lone thinker turned away from the scene framed in two eye-like windows, contemplating, instead, a collection of representative objects. This is either mentation or its parable, either the pleasures of witnessing or of remembering—what, in a phrase, Joseph Addison summed up as *The Pleasures of the Imagination*. What does it mean to think of thoughts as little nugget-like things, and little things as thoughts? Answers to questions like these help explain why we call a collection of objects a “museum,” a favored site of the muses; arrangement is one way of making sense of a whole range of mental faculties—from rea-

son to creativity. In fact, arrangement is one way of making sense of mentation as faculties in the first place.

In closing, let me just zoom out for a moment. It is a paradox of modern epistemology that that thing that should be most available to us (the spark of consciousness that, after Descartes and Locke, is the seat of reason and experience) is absolutely unspeakable, except through vocabularies borrowed from the sensible world. There are alternatives, which are (I think) worth exploring. But once we have committed ourselves to thinking of the mind as a structure, then we've committed ourselves to adopting various versions of metaphorical scaffolding. Scaffolding is the structural vocabulary or deep knowledge borrowed from repeated experiences with various kinds of technical gadgets. Speaking historically, then, if we are to seek the scaffolding itself—I mean, seek it in a sense of an archeology, of attempting to recover a way of thinking that would otherwise be lost—we can't look for it simply in the content of what people have spoken. It is a special feature of our habits that they don't enter into the content of our experiences. Rather, it has to be looked for in the structure of what has been thought, said, drawn, or built, especially in material habits. This is what I think *The Mind Is a Collection* is all about, and it is why I attempted to form my argument through a museum of exhibits. But, having published a book, I know that it is no longer mine; if I had been asked to speak from page 249, rather than 99, the otherness of ideas would have been my theme. And so, it is with curiosity and not a little trepidation (in other words, with wonder) that I'm going to stop speaking—and I look forward to finding out, finally, what I have been up to when compiling *The Mind Is a Collection*.

Scenes from the Kenshur Prize Symposium (2016)

SEAN SILVER, CAMERA OBSCURA AND IPHONE

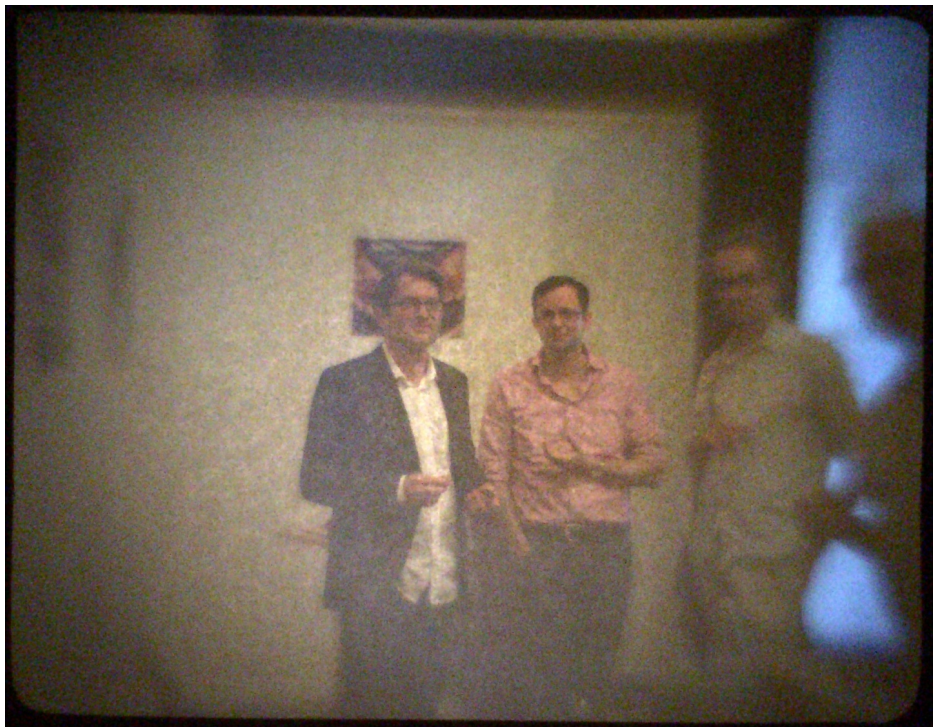


Sean Silver, self portrait



J. Molesworth, S. Silver, J. Stalnaker, J.B. Jackson, R.L. Spang





J. Türk, J. Molesworth, H. Bjørnstad



unidentified, T. Hutchings-Goetz, R. Nash, R. Seiler-Smith





objects, exhibited (in a case)



## Reading the Museum: On Sean Silver's *The Mind Is a Collection*

JOANNA STALNAKER

When Sean Silver welcomes us to *The Mind Is a Collection*, we find ourselves ushered both into his mind, with its particular twists and turns, and into a museum filled with the strangest of objects. The book presents itself as a virtual museum, a collection of twenty-eight exhibits that give material form to Silver's claim that in seventeenth and eighteenth-century Britain, dualist theories of mind were elaborated "through embodied engagement with crafted environments" (viii). Chapters are called cases—meaning both a container for objects (from a cabinet to a skull) and an instance of a particular situation (as in "case studies"). Individual numbered readings within those cases are called exhibits, each one attached to a particular object (from Locke's commonplace book, to William Hay's bladder stone, to a blank page in *Tristram Shandy*).

The first thing I would like to say in praise of Silver's book is that this structure is not a gimmick. And I say that as someone who was initially susceptible to thinking it might be. Silver has crafted a book that can actually be experienced as a museum in ways that are deeply meaningful and even transformative. Since the experience of reading is—like the workings of the mind—difficult to convey, let me begin with an analogy. I experienced Silver's book much like the recent "Manus X Machina" exhibit at the Met, in which articles of *haute couture* and *prêt à porter* are displayed so as to highlight the complex interplay between hand and machine in modern high fashion. At first, I found the exhibit profoundly disorienting. I was confronted with a collection of very strange objects: a white, feathery dress with bird skulls poking out from the sleeves; a set of colorful pleated dresses arranged like rocket ships at various stages of takeoff. It was not until I came across some volumes of Diderot and d'Alembert's *Encyclopédie* in the central exhibit chamber that I began to understand how the exhibit was conceived: the objects were grouped according to the artisanal *métiers* depicted in the *Encyclopédie*'s plates, from the *plumassier* (feather-worker) to the pleat-maker. As I continued to walk around the exhibit, the objects from these different "cases" began to resonate with each other in surprising ways: pleats made with a three-D printer on one dress came to resemble hand-sewn ridges of coral on another; finely detailed, machine-made *maroquinerie* or leather-working was barely distinguishable from hand-made *dentellerie* or lacework. Everywhere the curator's discreet hand was present, allowing me to perceive both the categories separating these objects into their various cases and the resonance between objects and across categories. When I eventually left the exhibit to visit, at random, a few galleries of the Met's permanent collection, I found myself seeing familiar objects with new eyes: the nearly transparent stone pleats of an Egyptian statue looked like fans opening onto a girl's body; the rich brocade of a nineteenth-century portrait seemed poised for flight.

I have digressed at some length to describe this experience because it mirrored my experience of reading *The Mind Is a Collection*. I will not be alone, I think, in finding Silver's vocabulary of book as museum, chapters as cases, and readings as exhibits disorienting at first. But nor will I be alone, I expect, in finding that this book subtly transforms the objects on which it lavishes such careful curatorial attention and, in doing so, gradually transforms our entire view of the eighteenth-century world, whether it be



the world of ideas or the world of things or, if we accept Silver's compelling claim for a materially-embedded history of ideas, the interface between them. The experience of reading *The Mind Is a Collection* is not a linear one: this is not to say that the book doesn't have an argument, but that the exhibits take on meaning through gradual accretion, just as bladder stones grow within the body. In this book, meaning accrues through the sympathetic resonance of objects within and across categories, a resonance that can often be experienced only retrospectively. Like Robert Hooke's sensory impressions in the brain, Silver's exhibits "'retain' and continually 'radiate a Motion of [their] own,'" long after you have finished reading about them (118).

Let me try to be more concrete: at the end of his third case on "Digression," Silver interprets a series of descriptions of walks by Joseph Addison as efforts to grasp the ramble of the mind. At the same time, Silver's discussion of actual walks habitually taken by Addison shows how "Gardens, like poems, are to be read" (147). By the end of this case, the distinction between inside (Addison's mind) and outside (the poetry-laden landscape through which he walks) has been broken down. Our own minds have been subtly and even somewhat sneakily prepared for Silver's next case, "Inwardness," in which William Hay, author of an essay on deformity, and the diarist Samuel Pepys enclose kidney stones in textual cases to conceive the peculiar and elusive bodily experience of inwardness. Yet by the time this case draws to a close, we have moved from the pain of lithotomy and the oily surface of a kidney stone to a blue-bound volume of a tragedy enclosed within a hidden cabinet at Strawberry Hill: Horace Walpole's public staging of inwardness with the perpetually withheld publication of his play, *The Mysterious Mother*. Strange objects and strange bedfellows, but they make the case that the eighteenth-century experience of inwardness moves us toward the period's "great epistemological vanishing point": conception, as it occurs both in the mind and in the female body (202).

In such a short time, I cannot attend to numerous other examples of the surprises and transformations that make Silver's collection whirr like a very lively brain. But I would like to raise the question of what occurs in Silver's final case, "Dispossession." Up until this point, all of Silver's exhibits are marked by the regime of possessive individualism, in which "the ownership of material things enables a kind of metaphorical transference to the ownership of other things, like ideas, rights, or faculties of mind" (246). In his last case, however, Silver moves from the possessors—all of whom happen to be men—to the dispossessed, a category that includes "the poor, the transient, and those cast out by the law," along with almost all women (227-28). The question of gender had been percolating in my mind as I read, from the moment early in the book when Silver observes in defining *cognitive ecologies* that "ecology is a study of home" (17). But Silver's cognitive ecologies—by which he means libraries, workshops, notebooks, and collections—are by and large homes crafted by men, seemingly in isolation from any shared domestic life with women or servants. It is only in the fifth case, "Conception," that gender comes to the fore, when Silver argues that the "epistemological vanishing point" of eighteenth-century theories of mind, i.e., the conception of ideas, can only be grasped through women's bodies. In William Hunter's *Anatomy of the Human Gravid Uterus*, this means that the violently literal peeling back of pregnant female cadavers is juxtaposed with the effort to imagine what the initial moment of conception might look like.

Thus Silver brilliantly makes the case, in his first five chapters, that it is impossible to conceive of eighteenth-century theories of mind without putting women front and center. But he does so, up to this point, without including a single female-authored exhibit in his collection. This absence is all the more striking when we learn, at the beginning of the sixth and final case, that according to Karen O'Brien "no female writer ... accepted uncritically [Locke's] epistemology" (196). But who were these female writers? What did they have to say about Locke's epistemology? And how might they have figured the mind differently? Just as the mental conception of the Widow Wadman must be relegated to a blank page in *Tristram Shandy*, Silver's readers must conjure from blankness a picture of what female theories of mind might have looked like. That is, until the twenty-fourth exhibit of Laetitia Pilkington's book of accounts. This is one of the six exhibits that make up the "Dispossession" case, exhibits which, as Silver admits with refreshing candor, are "the least adequate to the case they are made to bear" (x). Pilkington is a Grub Street hack whose memoirs Silver reads as an instance in which "the author emerges less as a source of autogenetic production than as what might be called a function of the marketplace" (240). In other words, Pilkington, the sole female author in this case and in the museum, appears not so much as an author in possession of her ideas, words, and creations, as an object moving through the endlessly reconfigured collection of the emerging literary market.

So it is that Silver's collection has its own vanishing point: how it might be possible in the eighteenth century to conceive of a woman's mind. One of the most remarkable aspects of the book, to my mind, is the subtlety and intelligence with which Silver makes room for this dark space at the heart of his museum. He has given us to understand that eighteenth-century theories of mind have everything to do with women. He has also helped his readers, with his last six exhibits, to "unthink everything the past twenty-two [exhibits] have thought" (226). Now that we have unthought, we are left wishing that we could think with him anew, to fill in the blank page of eighteenth-century female conceptions of mind.

## Reflections on the Curatorial Mind

JASON BAIRD JACKSON

I lack sufficient knowledge of the science, history, culture, and literature of this period, as well as of the relevant parts of cognitive science, to engage knowledgeably with the heart of Sean's remarkable work. Reflecting on its central organizing device and thematic concern—the project's literal and conceptual organization as a museum-minded exhibition of museum mindedness—does offer me a point of entry, however. I fear though that I have proven to be one of those rushed museum visitors trying to squeeze in a stop at the big city museum while en route to the airport (roller bag in tow). Passionately interested and markedly impressed, but also nervous and feeling pressed for time, here are a few reflections on my hurried visit. They address smaller *vitrines* and displays around the edges rather than the main exhibition hall with the core of the story. In the end, such sites of engagement are, of course, a specialty of my own field of Folklore Studies.

I was struck by the degree to which this is a book and digital exhibition (among the most sophisticated that I have encountered) of our moment. This is not in itself a complete surprise, of course (all our writings would similarly qualify in degrees), but it does warrant closer acknowledgement. Those who work in museums have a love/not-love relationship with the museum-ification of everything that western societies (and others as well) are in the midst of right now. This is easiest to see in the proliferation of settings in which the word “curator” is made to apply. TED talks are curated as are meals, fashion shows, and car insurance options. What Barbara Kishenblatt-Gimblett speaks of as the curation of the life world is manifest in the extreme when we speak of curating one's own personal brand through, for instance, one's social media engagements.<sup>1</sup> When it comes to more-than-just-museums curating, there are many very cool things happening on this front in *The Mind is a Collection*—both the book and the digital exhibition. Like I am, Sean is a part of the zeitgeist. He has interests and passions that are socio-culturally and historically conditioned and he knows the mood of the present so as to anticipate the interests of his readers; but at the same time, his book is fundamentally about the curation of the life world and is a valuable reminder that there is much more to this than a present-day sensibility. I loved learning about the degree to which the curatorial style was a past-day sensibility for learned London, if not for the mass of the city's residents. Something special happens when a well conceived, well executed project is perfectly calibrated between the ethos of its present and the ethos of the other time or place or context with which it is concerned. Such dynamics could be investigated in any scholarly project, but here they just ring clear as a bell for me.

Another instance of this calibration of then and now ethoses concerns what here at Indiana University we call—its in our strategic plan, for instance—“a culture of making.” Even when Sean is discussing unfamiliar matters, I sense that nearly any practicing museum curator would swoon in response to his manifest love of objects, particularly in their status as manifestations of craft. This is a book and digital exhibition for material culture specialists, even if it deals with materials and concerns not uniformly familiar to

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<sup>1</sup> Barbara Kishenblatt-Gimblett, *Destination Culture: Tourism, Museums, and Heritage* (Berke-

the most established material culture disciplines. But outside the scholarly realm, ours is a moment of craft in countless guises, from molecular baskets concocted in materials-engineering laboratories to yarn bombing on the streets of Bloomington. I have a friend who crafts artisanal reproductions of the earliest telescopes—the kinds of objects that would seemingly belong in the cabinets of Sean’s subjects. As my own students are documenting ethnographically in a wide range of domains and as the programs of the Mathers Museum reveal, a significant portion of our fellows in the present are in love with the hand-made thing and, sometimes, with making things by hand. Such enthusiasms surely persist in a core of actors in each period and place, but they also go in and out of wider fashion. Ours is a maker-minded moment and this is an engaging book and digital exhibition written about the maker-minded living in another maker minded-moment by a maker-minded author. My pleasure again arises in part from the parallelisms found here. I also look forward to learning more about Sean’s in-progress work *The Crafts of Enlightenment*.

# *Numbers*   < - - - Measure - - - >   *Scale*

The Indiana Center for Eighteenth-Century Studies announces its sixteenth annual  
Bloomington Workshop (May 10-12, 2017).

Over the past decades, conceptual pressures and methodological innovations have together transformed research on the eighteenth century. Simply comparing the first issue of *Eighteenth-Century Studies* with the most recent one indicates how our field's dimensions—both the scope of what we study and the scale of how it is studied—have shifted. How should scholars today navigate between close readings and text mining, case studies and global histories, anecdote and data? To what extent did eighteenth-century individuals, texts, and institutions confront their own versions of these questions? How might their answers and strategies help us better formulate our own? We are interested, that is, both in how concern for measuring, counting, thinking large and small (and everything in between) was evident in eighteenth-century lives and works and in how scholars today respond to the variety of optics, scales, and measurements increasingly available to them.

In keeping with our sense that changes in scale and number have often been productive disruptions, we invite proposals for multi-authored papers and/or miniature ones, as well as single-authored working papers (draft articles or chapters) and collections of primary sources (texts, images, or data) paired with commentary. Other innovative formats are also welcome.

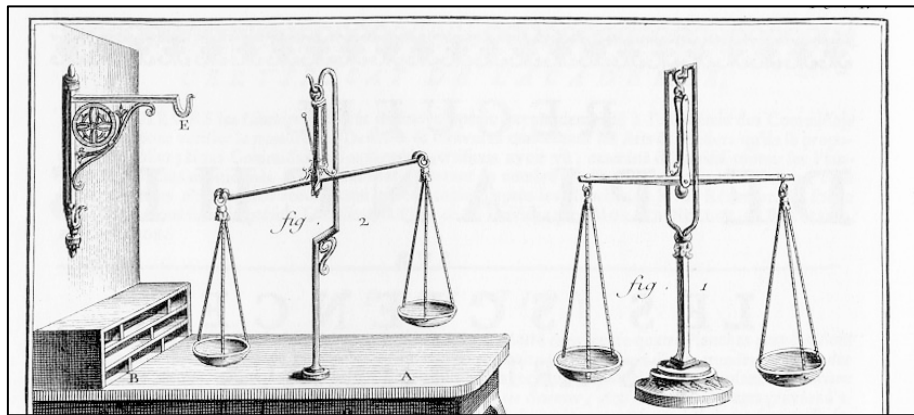
Topics to be addressed might include:

- ◇ digits, duodecimals, and decimalization
- ◇ metrics, statistics, and the knowledge economy (then and now)
- ◇ measurement in/of the visual or performing arts: harmonics, rhythm, spectrum
- ◇ mathematical instruction, actuarial attitudes, and cultures of account
- ◇ techniques and technologies of measure (micro or macro)
- ◇ encyclopedism, aggregation, and enumeration
- ◇ proportion, price, perspective
- ◇ infinity and finitude

During the Workshop, we will discuss pre-circulated texts (due in mid-April) and perhaps have an occasional lecture or laboratory practicum. Expanded abstracts and/or entire papers will be published in the Center's *The Workshop*, along with discussion transcripts.

The application deadline is Tuesday, January 17, 2017. Please send a paper proposal (1-2 pages) and current brief CV (3 pages, max) to Dr. Barbara Truesdell; Administrator, Center for Eighteenth-Century Studies. We prefer that these materials be sent by e-mail to [voltaire@indiana.edu](mailto:voltaire@indiana.edu). Dr. Truesdell can also be reached at the following postal address: Radio-TV Building #314; 1229 E. 7th Street; Bloomington, IN 47405; (tel.) 812-855-2856. We will acknowledge all submissions within a fortnight: if you do not receive an acknowledgment by January 31, 2017, please e-mail [voltaire@indiana.edu](mailto:voltaire@indiana.edu) or the Center's Director, Professor Rebecca L. Spang ([rlspang@indiana.edu](mailto:rlspang@indiana.edu)).

Papers will be selected by an interdisciplinary committee. We cover most expenses for visiting scholars chosen to present their work: accommodations, travel (up to a certain limit), and most meals. For further information please see [www.indiana.edu/~voltaire](http://www.indiana.edu/~voltaire)





Indiana Memorial Union (IMU)  
Distinguished Alumni Room

Wednesday May 10

**1:00-1:30 Welcome and Introductions**

Rebecca Spang (Director, Center for  
Eighteenth-Century Studies)

**1:30-2:30 pm**

Sarah Huebsch (Music, Indiana  
University)

“Eighty Pulse Beats to a Minute”: Johann Joachim  
Quantz and Time in Music [performance]

Chair: Roman Ivanovitch (Music Theory,  
Indiana University)

**2:30-4:00 pm**

Michael Gavin (English, University of  
South Carolina)

The Mathematical Structure of Geographic  
Description

Nick Valvo (English, Northwestern  
University)

Scale, Sentiment, and Sociability

Comment: Richard Nash (English,  
Indiana University)

**4:30-6:00 pm**

Nick Paige (French, University of  
California-Berkeley)

The Novel by Numbers

Chair: Hall Bjørnstad (French and  
Italian, Indiana University)

**7:30 pm**

*Festive Dinner at the home of Professors Oz  
Kenshur and Margot Grey (3807 Rachel's  
Glen Road, 812-339-9560)*

Thursday May 11

**9:00-10:15 am**

Simon DeDeo (Social and Decision  
Sciences, Carnegie Mellon University)  
and Rebecca Spang (History, Indiana  
University)

How Surprising was the French Revolution?

Chair: Fritz Breithaupt (Germanic  
Studies, Indiana University)

**10:30-12:00 pm**

Elizabeth Bond (History, Ohio State  
University)

Responding to Print in Ages of Information  
Overload

Melanie Conroy (French, University of  
Memphis)

Networks of the Enlightenment: French Salons  
and Academies as Networks

Comment: Rob A. Schneider (History,  
Indiana University)

**12:00-1:30 pm Lunch break (where you  
will)**

**1:30-3:00 pm**

Sarah Grandin (History of Art, Harvard  
University)

Sowing to Scale in the *Parterre de broderie*

Ayana Okeeva Smith (Musicology,  
Indiana University)

Measuring the Heavens: Ocular Devices and  
Operatic Truth in Arcadian Rome

Comment: Bret Rothstein (Art History,  
Indiana University)

**3:15 -5:30 pm**

Rachel Feder (English, University of  
Denver)

“Or else she were alone”: Infinity Discourse and  
the Ethics of Counting

Justin Roberts (History, Dalhousie  
University)

“Keep Numbers of Them Alive”: Counting  
People and Populations on British Caribbean  
Sugar Plantations

Ryan Sheldon (English, SUNY-Buffalo)  
Policing by Numbers: Plague, Political Arithmetic,  
and Numerical Argument

Comment: Rachel Seiler-Smith (English,  
Indiana University)

**7:00 pm arrival for 7:30 pm**

*Banquet at Le Petit Café (308 W. Sixth  
Street)*

Friday May 12

**9:00-10:30 am**

Brad Pasanek (English, University of  
Virginia)

Heaps of Heaps: Accumulating Verse

Timothy Campbell (English, University  
of Chicago)

Eighteenth-Century Dress and the Arts of  
Measure

Comment: Mark Vareschi (English,  
University of Wisconsin)

**10:45 -12:00 pm**

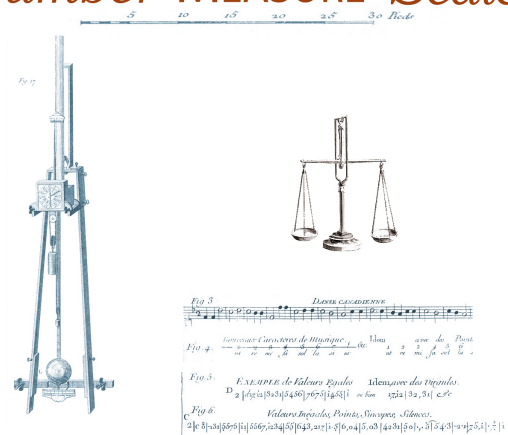
Mary Favret (English, Johns Hopkins  
University)

Final Comment

Chair: Jonathan Elmer (English, Indiana  
University)

# 18<sup>th</sup> Century

## Number MEASURE Scale



The Annual Bloomington  
Eighteenth-Century Studies  
Workshop  
Indiana University  
May 10-12, 2017

# Workshop

The Annual Bloomington Eighteenth-Century Studies Workshop is organized by the Center for Eighteenth-Century Studies at Indiana University (Rebecca Spang, Director).

The workshop is made possible thanks to the generous support of the IU College of Arts and Sciences. We thank all our workshop presenters and registrants for their enthusiastic participation and support. We would like to extend special thanks to Barbara Truesdell for her invaluable help in organizing the workshop.

Since the Workshop relies on pre-circulated papers, it is for registered participants only. To register and receive the papers, or for other inquiries, please contact:

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*L'Encyclopédie* (1751-1765)

## Sixteen, or Two to the Fourth

REBECCA L. SPANG

Hello, I am Rebecca Spang and, as the Director of the Center for Eighteenth-Century Studies at Indiana University, it is my great pleasure to welcome you to this, the *sixteenth*, annual Bloomington Workshop. Since the Center's inception in 2002, we've sponsored a wide range of conversations, on topics from the Self and "Death," to Play, Hospitality, and the Eighteenth-Century Unconscious. This year's theme, "Number, Measure, Scale" arises from our collective sense that over the past decade and a half, the task of interdisciplinarity has been made all the more challenging by the vast expansion in the scale of materials available at our fingertips. There is a generational divide—one rarely acknowledged—between those of us who know what it is to go into the stacks looking for a certain volume of a bound periodical, and those whose entire research existence has been lived in the era of JSTOR. The changing scale of Eighteenth-Century Studies as a field is made even more obvious if we compare the first volumes of *ECS* to recent ones. While some early articles are nothing if not vast in their pretensions—in the very first issue, for instance, Paul Henry Lang covered all of "The Enlightenment and Music" in fifteen pages—they achieved these ends by working with a unitary sense of "Enlightenment" (such that a "movement" of that name became the only real actor) and a fairly limited, canonical set of sources.<sup>1</sup> Many *Eighteenth-Century Studies* articles from the 1960s and 1970s strike me, at least, as remarkably finite in ambition and execution: "Syntax and Substantive in [Swift's] *The Conduct of the Allies*" or "Christopher Smart: Some Neglected Poems."<sup>2</sup> Nothing in these first volumes gives a hint of a global eighteenth century, or a gendered or sub-altern one.

The shifting dimensions of our field—changes in the scope both of what we study and the scale at which it is studied—have not come without problems. Last year's Workshop included a participant from beyond Eighteenth-Century Studies, a self-styled "Orientalist" who teaches Arabic language and literature at UCLA (when he isn't perfecting his Maltese at the University of Valletta). In an affectionate, but slightly pointed exchange that followed the Workshop, he mapped our idiolect (as a linguist, this is what he does), proposing that one basic sentence template in our conversations takes the form "What does *x* tell us about how *y* was imagined?" So one example of this might be: "What does clock-making tell us about how time was imagined?" He went on to suggest, however, that many of our exchanges actually consisted not of *answering* those questions, but instead of "competing to discover increasingly microscopic items to fill the *x* slot and increasingly staggering items to fill the *y* slot. For example: "What do chocolate sprinkles tell us about how happiness was imagined?" The issue he raised, obviously, is one of scale: how to navigate from the detail (beloved of many—though not all—of us) to the

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<sup>1</sup> "The Enlightenment.... depart[ed] from seventeenth-century writers when it combined the general doctrine of affective representation with the theory of imitation of nature," Lang, "The Enlightenment and Music," *Eighteenth-Century Studies* 1:1 (1967), 103.

<sup>2</sup> Alan T. McKenzie, "Proper Words in Proper Places: Syntax and Substantive in *The Conduct of*

grand claim, from the specifics of past centuries to the “relevant” of today? Is it always a matter of moving between the two? Or is it—in some cases, at least—rather, the imperative of *choosing* between close readings and text mining, case studies and global histories, anecdote and data?

As we think about these questions, we will also want to consider the extent to which eighteenth-century individuals, texts, and institutions confronted them in their own terms. What did people *count* in the eighteenth century (and which people counted, in both senses of the term: who mattered, and who did the enumerating)? Today, in the aftermath of the metric system, we may imagine systems of measurement as universal (except, of course, they don’t apply to the United States of America), natural, and objective, but in eighteenth-century France, everybody knew that measurements were local, historical, and specific. We might even say the same of numbers at that time. Here, for instance, is what the *Encyclopédie* has to say about “sixteen”:

Sixteen (arithmetic). An even number composed of one ten and six ones, or two eights, or four fours; whether two is multiplied by eight, or eight by two, or four by itself, it can never produce anything other than sixteen. In common or Arabic numbers, sixteen is written *16*; in Roman numerals *XVI*; and in French accounting or finance figures as *xlj*.

So to write or talk of numbers is also to write and talk about signs. And if some numerical truths are understood as immutable and international—as the *encyclopédist* tells us, wherever you are, whatever you do,  $2 \times 8 = 8 \times 2 = 4 \times 4$ —our access to them and ways of rendering them will vary with time, place, and purpose.

A few comments, as well, about how we will proceed for the next few days. We are recording our conversations, many of which will be transcribed and published in our annual proceedings volume. We do this because while we know we cannot predict how our discussions will go, we also know that they are among the most cherished (and least well immortalized) of academic activities. To act, as Hannah Arendt writes in *The Human Condition*, “means to take an initiative, to begin... to set something into motion”—and each question posed, each comment offered, will be just such an act: the beginning of a new future for the conversation both here in person and, perhaps, later as well. Each conversation has a colleague to chair it (in most cases, though not always, who also serves as commentator). It is the chair’s task to keep our discussion convivial, shared, and more or less “on track.” Raise your hand if you have a question or comment; if you have a small intervention you want to make that follows directly on something that has just been said, make the “hook” sign and you will then be invited to speak immediately but please do make sure what you have to say does indeed follow directly and is concisely formulated. We also want to make sure that everyone—not just paper authors and commentators—feels welcome in the conversation, so to encourage student participation we continue with the house rule of allowing students to “jump the queue” in all contexts.

## Music, Measure, Time: an Introduction

ROMAN IVANOVITCH

It is my pleasure to introduce the first session today, which features a presentation by Sarah Huebsch. Sarah recently gained her D.M. (Doctor of Music) degree in Early Music from Indiana University, and is active as a period oboist and as a scholar of early music and performance practice. We're extremely fortunate that Sarah has tapped into her network of musicians to bring some of them here to perform illustrations from her talk. (I'll let her introduce them.)

Before turning things over to Sarah, I thought I would take just a few minutes to provide a little additional context for her discussion. To be sure, the themes of the workshop could be (and to a certain extent probably were) tailor-made for musical matters: number, only to an extent, perhaps—but for a musician, the immediate meanings of “measure” and “scale” are practically reflexive: measure would involve a bar or a small, regularly marked span of music, and also the concept of meter; scale connotes most obviously a gamut or stepwise arrangement of a referential collection of pitches.

The story Sarah will tell involves the way musicians organized the temporal dimension of music, both in concept and in practice. In the middle of the eighteenth century, even such an apparently simple and crucial topic as the appropriate speed or pace of a composition (that is, its tempo) involved, in the absence of some shared means of measurement, a host of insider knowledge about musical character, note values, verbal descriptions, and meter. And as the life of such a composition radiates beyond the immediate geographical and temporal zone of its composition, this “insider knowledge,” a matter partly of judgment and taste, becomes even more fragile, its very richness as the site of personalization and freedom the grounds for contestation and loss.

The temporal dimension of music across the eighteenth century can be described through technical theories of rhythm and meter: the inheritance from medieval times of a system of durational relationships known as *mensuration*, which relates notes on the principle of *division* and subdivision of a tactus or beat (as Sarah will show)—a way of thinking already attenuated at the beginning of the eighteenth century and which was eventually replaced, in the later writings of Kirnberger, Schultz, and Koch from the 1770s and 1780s, by a conception based on *grouping*, as beats are collected to form measures, which are then organized into regular metric patterns by the cognitive action of the listener (this is the so-called “accent-theory” of meter). Theoretical interest in the late eighteenth century also started to focus not only on the rhythm of individual measures, but on the rhythm created by phrases themselves.

These shifts can be understood through the lens of wider conceptions of time, as authors such as Roger Grant have demonstrated (and Sarah will touch on some of these aspects too), but I would stress that they ought also to be framed within the massive shifts in *musical style* of the century.<sup>1</sup> To be sure, this is partly a matter of apparent temporality—the way that later music seems to be more evidently goal-directed, more “dramatic,” possessing an increasing clarity and stylization of phrasing. But to move from, say, Bach's well-known C major Prelude of 1720, with its single, irreducibly rich pattern of repeating arpeggios gracefully stretched across 35 measures, to something like Beethoven's “Grosse Fuge” a century later (a single movement

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<sup>1</sup> Roger Matthew Grant, *Beating Time and Measuring Music in the Early Modern Era* (Oxford University Press, 2014).

weighing in at a monstrous 740 measures) is to be struck by sheer scale. Indeed, one recent influential formulation of late eighteenth-century sonata form describes the practice as a “feat of engineering, like a bridge ‘thrown out’ into space.”<sup>2</sup> Controlling these ever-larger spans of musical space was the business of the composer, and music theorists hastened to keep up. (And it is not beside the point to mention that the very first page of Beethoven’s fugue contains three changes of time signature and tempo marking, and a baffling and still-contentious notation practice for the main theme of the piece.)

Returning to the themes of the workshop, some of the questions raised by Sarah’s presentation might be described through issues of personalization and standardization, through the dissemination of cultural knowledge and oral traditions across space and time, through anxiety over the loss of access to former ways of doing things, through the “tyranny of number” (in the form of metronome markings), and the challenges of “scaling up.”

There’s one final point I’d like to make, before handing over to Sarah and her band of merry musicians. And that is that, while a music theorist has the luxury of eternally mulling and deferring judgment, a practical musician has to *choose*. The question of tempo, to return to my initial example, is a very immediate and consequential one. Leopold Mozart, in his treatise on violin performance (a classic and influential text written around the same time as Quantz’s), writes that choice of tempo is the thing “by which the true worth of a musician can be recognized without fail.” Who, he says, “will contradict me if I count this among the chiefest perfections in the art of music?”<sup>3</sup> And it is especially in this light, as a practical, performing musician, that Sarah will be able to offer us her insights, as she explains the delicate matter of bringing the dead score to life.

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<sup>2</sup> James Hepokoski and Warren Darcy, *Elements of Sonata Theory* (Oxford: Oxford University Press, 2006), p. 15.

<sup>3</sup> Leopold Mozart, *A Treatise on the Fundamental Principles of Violin Playing*, trans. Editha Knocker, second ed. (Oxford: Oxford University Press, 1985), p. 33.



# ‘Eighty Pulse Beats in a Minute’: Johann Joachim Quantz and Time in Music<sup>1</sup>

SARAH HUEBSCH SCHILLING

In his 1752 treatise, *On Playing the Flute*, Johann Joachim Quantz advocated for choosing tempo based on the speed of eighty pulse beats to a minute.<sup>2</sup> He instructed that an approximate performance speed for a musical composition (tempo) could be determined by measuring “the pulse beat at the hand of a healthy person.”<sup>3</sup> Why would someone in the eighteenth century use the hand pulse (heart rate) as an indication of tempo? Were all pieces of music to be played at that rate? What responsibility did the composer have? The performer?

Quantz indicated that Étienne Loulié’s chronometer designed in 1698<sup>4</sup> had fallen into universal oblivion and questioned the usefulness of such a device. In 1752, Quantz couldn’t have known the ubiquitous place the metronome would inhabit by the early nineteenth century. Throughout the eighteenth century, musicians continued to use the heartbeat as the guiding pulse. (In some circles, where pocket watches were more common, musicians may have used watches to help govern time in music.)

Before the eighteenth century, time in music was connected to motion in space. There was a rigorous *tactus* against which musical units were calculated and designated through notation. By the time of Beethoven, however, composers determined interpretative choices, including the speed at which music should be performed. These indications were written out in scores in the form of numeric metronome markings as well as descriptive words. In the 1700s, there was an intersection of natural pulse (*tactus*) and mechanized time (metronome). Eighteenth-century tempo was governed by meter, note values, and affect.<sup>5</sup> Musical language determined tempo by a combination of metrical indications, form/structure, and written instruction.

## **Measuring Time in Music Before the Eighteenth Century**

Performers know how quickly or slowly to perform notes based on note values printed in his/her musical score. Gioseffo Zarlino’s treatise *Le Istitutioni harmoniche* (1558) is representative of music theory in the late Renaissance. The connection of time to motion persists throughout these writings.<sup>6</sup>

Before the eighteenth century, time was measured in *tactus*. *Tactus* derives from Latin *tactus* and German *tact*—meaning “to touch.” In music, *Tactus* is the amount of time of a descending

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<sup>1</sup> Musical examples demonstrations included the following excerpts: Pierre Danican Philidor, Cinquième Suite (Paris, 1717) and Georg Phillip Telemann, 12 *Fantasies à traversière sans basse*, TWV 40:2-15 (Hamburg, 1732). Performers were Leighann Daihl Ragusa (traverso), Sarah Huebsch Schilling (oboe), Eric Fisher (viola da gamba), and Hsuan Chang (harpsichord). Double-manual Flemish Harpsichord courtesy Jacobs School of Music Historical Performance Institute.

<sup>2</sup> Johann Joachim Quantz, *On Playing the Flute*. Orig: *Versuch einer Anweisung die Flöte traversiere zu spielen*. Translated by Edward R Reilly (Berlin, 1752; London: Faber, 1966), 289.

<sup>3</sup> Quantz, 283.

<sup>4</sup> This design was also envisioned by Mersenne in the seventeenth century. Roger Mathew Grant, *Beating Time and Measuring Music in the Early Modern Era* (Oxford: Oxford University Press, 2014), 184.

<sup>5</sup> Tempo indicates the speed of music and affect governs the mood of the music.

<sup>6</sup> Grant, 23.

and ascending motion of the hand relative to the “manner of the human pulse.”<sup>7</sup> Zarlino calls this measuring of time the *battuta* (measure). He compares pulse in music to human pulse, described by Galen as “tightening, or lifting and falling, of the heart and arteries.”<sup>8</sup> The hand moves down and up regardless of the meter. The downward motion is called *position* and the upward motion is *levatoine*. If the meter is equal (that is, divisible by two), the downward motion is one count and the upward motion is one count. If the meter is unequal, that is, divisible by three, the downward motion is two counts and the upward motion is one count. In this case, the down is longer (1, 2) and the up is shorter (3).<sup>9</sup> Although these motions may resemble modern conducting, they are tracking time in a different way. Tactus shows time for proportional note values rather than measured note values.

Time kept by tactus shows the performer the speed of a specific note value—the *breve* (rectangle). “Sancti Mei” by sixteenth-century composer Orlando de Lasso, shown in figure 1, exemplifies mensural notation; in this notation, proportional units describe a note’s rhythmic value.



Figure 1. Orlando di Lasso “Sancti Mei” from *Nouae aliquot et ante hac non ita vsitate ad duas voces cantiones suauissimae* (London, 1598)—note that there are no barlines, no indication of music divided into measure.

### New Measures: The Bar Line

The increased use of a barline allowed musicians to think of the measure as a distinct unit.<sup>10</sup> Étienne Loulié’s 1696 treatise evidences the separation of the measure (that is, the distance from one bar-line to the next bar-line) from beat (*temps*). Loulié defines meter: “Meter (*mesure*) signifies a number of equal beats which serve to regulate the duration of sounds.”<sup>11</sup> As with Zarlino, Loulié describes a descending and ascending motion of the hand as a regulation of time: “the

<sup>7</sup> Gioseffo Zarlino, *On the Modes: Part Four of Le Institutioni Harmoniche*, 1558, translated by Vered Cohen, edited by Claude V Palisca (Venice, 1558; New Haven: Yale University Press, 1983), 116.

<sup>8</sup> Zarlino, ch. 48.

<sup>9</sup> “Thesis” for upward and “arsis” for downward are also used.

<sup>10</sup> “Notational changes, including the more frequent use of regular barlines, afforded the possibility to treat the measure as a distinct object.” Grant, 37.

<sup>11</sup> “La Mesure est un nombre de battements égaux qui fevent à rager la durée des Sons” in Etienne Loulié, *Èlèments ou principes de musique* (Christophe Ballard, 1696), 33-34 cited in Etienne Loulié, *Elements or Principles of Music*, translated and edited by Albert Cohen (New York: Institute of Mediaeval Music, 1965), 26-27.

beat [*battlement*] is movement of a foot or hand down and up. In contrast, the tempo is the duration of the *battement*.”

Along with the use of barlines separating music into measures, came a new system of rhythmic hierarchy: *quantitas intrinseca*. Additionally, the word “beat” changed from a physical movement of the hand to the rhythmic placement of notes between two barlines on the printed page. *Quantitas Intrinseca* is the idea that some notes are “good” and others are “bad,” often dependent on their beat placement in a measure relative to the time signature. Performance instructions are implied by *quantitas intrinseca*. The sign for a down bowing still used today derives from *nobilis* for “good,” and *villis* for “bad.” Performers emphasize good beats and minimize bad beats. The downward motion of eighteenth-century violin bows creates a louder sound than the up-bow, which is weaker.<sup>12</sup> There are similar indications for the down and upward hand motions of plucked string players (lute, guitar, etc.) as well as correlating instruction for wind instrument articulation.<sup>13</sup>

### Meter, Tempo, Affect

In *General-Baß-Schule* theorist Johann Mattheson writes, “*Tact[us]* is nothing other than a raising and lowering of the hand.”<sup>14</sup> This dismissive definition of *tactus* shows the separation of time from motion Loulié had described in 1695. Throughout the eighteenth century, performers and academics argued over ways to measure time in music. The Berlin Academy was founded in 1700; members gathered to compare research, read papers, and hold academic contests. The Newton-Leibniz debate was a central controversy of the Berlin Academy. Newton (and Newtonian descendants) conceived of an absolute time that divorced from motion.<sup>15</sup> Carrying on the Scholastic tradition of Descartes, Gottfried Leibniz argued that time and motion are connected; time is a measurement of motion.<sup>16</sup>

### Tempo Indicators

In the mid eighteenth century, composers began writing detailed instructions for performers. Time signatures<sup>17</sup> were combined with tempo words like *Allegro* and *Largo* to determine the “*tempo giusto*”—the “correct” tempo. In the same way that the key or mode of a piece assisted in determining affect, so too did its rhythmic qualities. Composers began writing in all manner of new key signatures. Compositions written in an older style, *stile antico*, continued using some of the old mensural signs<sup>18</sup> and simple signatures like 3/1, 3/2.<sup>19</sup>

Performers interpreted notation and text to determine tempo. Increasingly, tempo words, usually in Italian, were written at the beginning of a piece or section of a piece to indicate the speed and character of a piece. *Allegro* means gay as well as fast. *Adagio* means slow and is usually

<sup>12</sup> Werner Bachmann, Robert E. Seletsky, David D. Boyden, Jaak Liivoja-Lorius, Peter Walls, and Peter Cooke, “Bowstrokes to c1780” from “Bow” in *Grove Music Online*. 14 Jul. 2018.


<sup>13</sup> Quantz, 71-86.

<sup>14</sup> “Der Tact sey nichts anders, als ein Aufheben und Niederschlagen der Hand.” Johann Mattheson, *Kleine General-Baß-Schule*, facsimile ed. (1735; Laaber: Laaber-Verlag, 1980), 92.

<sup>15</sup> Grant, 102-103.

<sup>16</sup> *ibid.*

<sup>17</sup> Time signature is used interchangeably with meter by musicians today.

<sup>18</sup> C and Cut C, written .

<sup>19</sup> George Houle, *Meter in Music 1600-1800: Performance, Perception, and Notation* (Bloomington: Indiana University Press, 1987), 35.

somber or serious. Together with time signature and descriptors, these tempo words clarify character and performance speed of a piece. *Allegro con brio* (gay with brilliance) is faster than *Allegro* and much faster than *Allegro moderato*.<sup>20</sup>

The time signature of a piece is also an indicator of tempo. In *Anleitung zum Clavierspielen*, Marpurg shows thirteen distinct time signatures and other variations. Typical of tables of the period, note values and regular patterns are shown in figure 2.

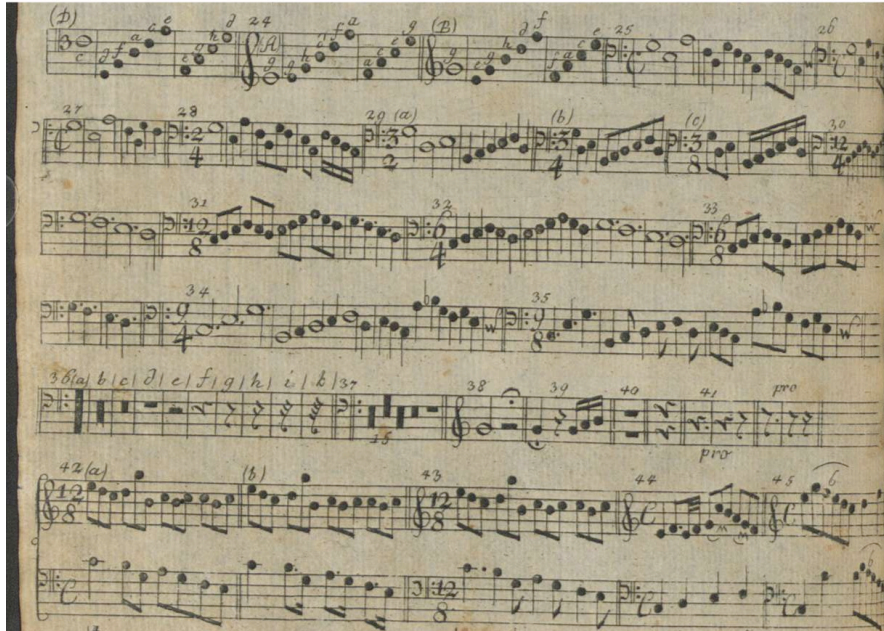


Figure 2. from Table 1, Friedrich Wilhelm Marpurg, *Anleitung zum Clavierspielen* (Berlin: A. Haude & J. C. Spener, 1755), [86].

Within each tempo there are further graduations of speed and character to consider. Quantz spends a chapter instructing performers on how to play pieces marked *Adagio*, stating, “In playing you must regulate yourself in accordance with the prevailing sentiment, so that you do not play a very melancholy *Adagio* too quickly or a cantabile *Adagio* too slowly.”<sup>21</sup>

### Mechanized Time

We do not have chronometer or metronome markings from any major eighteenth-century composer.<sup>22</sup> Despite attempts to clarify tempo choices from a combination of descriptive words and time signature, some musicians wrote that the speed of a piece cannot be determined by the-

<sup>20</sup> Tempos in order of slow to fast, according to Quantz include: slow (Grave, Largo, Larghetto, Adagio, Lento); moderate (Andantino, Tempo di Minuetto, Andante, Moderato, Allegretto); and fast (Allegro Moderato, Allegro, Vivace, Alla breve, Presto, Vif, Prestissimo).

<sup>21</sup> Time signatures increasing in speed according to Quantz include: Cut C or 3/2, 4/4 or 3/4, 2/4 or 6/8. Quantz puts slow tempos in order of most melancholy to least melancholy; these are shown in increasing speeds within *Adagio*: *Adagio di molto* or *Lento assai*; *Grave*; *Adagio spiritoso*; *Cantabile* or *Arioso* (3/8); *Andante* or *Larghetto* (3/4); *alla Siciliana* (12/8). Quantz 164-165.

<sup>22</sup> Clive Brown, *Classical and Romantic Performing Practice 1750-1900* (Oxford: Oxford University Press, 1999), 297.

se descriptors alone. In the same way that early eighteenth-century composers disassociated time from motion, nineteenth-century composers disassociated meter (time signature) from tempo.<sup>23</sup> In his *Neue Sing-Schule* from 1804, Johann Friedrich Schubert contends:

The correct tempo or degree of speed cannot be determined by any heading and can only be gathered from the inner characteristics of a composition itself [...] An Allegro in a church style or oratorio must have a slower tempo than an Allegro in a theater or chamber style. [...] Differences in compositional style or manner and national taste also necessitate a faster or slower tempo.<sup>24</sup>

It is challenging for today's performers to understand how tempos were chosen during the eighteenth century. Nationalist stereotypes were already becoming entangled with aesthetic choices—eighteenth-century audience members wrote that “Haydn liked his finales faster than Mozart,”<sup>25</sup> or that Viennese allegros were quicker than northern-German ones.<sup>26</sup> Reviewers commented on the weight and majesty of German voices and the frivolity and lightness of Italian ones.

The new metronome, designed by Johann Nepomuk Maelzel, came into regular use soon after its invention. Like other time measuring devices before it, Maelzel's metronome, shown in figure 3, used weighted pendulum motion. It was distinctive, and immediately useful, for its calculated divisions of time against a minute. One could set the metronome for “80 pulse beats in a minute,” or “120 beats in a minute,” and so on. Beethoven<sup>27</sup> and Schubert immediately took to the new device. Publishers and metronome advocates began publishing music with written in metronome markings to suggest tempos for pieces by Mozart, Haydn, Handel, and others.

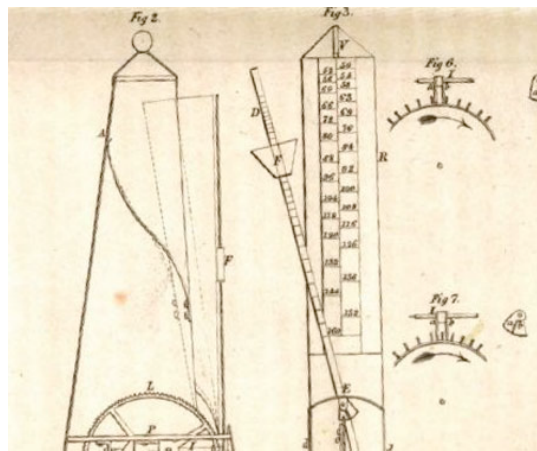


Figure 3. Maelzel's Metronome design patent from *The Repertory of Arts, Manufactures, and Agriculture...patent inventions*, vol. 33, ser. 2 (Printed for J. Wyatt, London, 1818), [9a].]

<sup>23</sup> Grant, 186.

<sup>24</sup> Johann Friedrich Schubert, *Neue Sing-Schule oder gründliche und vollständige Anweisung zur Singkunst in 3 Abtheilungen mit hinlänglichen Uebungsstücken* (Leipzig: Breitkopf & Härtel, [1804]) no.1 ~72.

<sup>25</sup> *Allgemeine musikalische Zeitung*, 13, no. 44 (Leipzig: J. Rieter-Biedermann, 1811), 737.

<sup>26</sup> Brown, 297.

<sup>27</sup> Susan Forsén, Harry B. Gray, L. K. Olof Lindgren, and Shiley B. Gray, “Was Something Wrong with Beethoven's Metronome,” *Notices of the AMS*, Vol. 60, no. 9; Peter Standlen, “Beethoven and the Metronome,” *Music and Letters* 48 no. 4, 1967, pp. 330-349; Grant, 185; and others.

**Conclusion**

The eighteenth century witnessed a shift from musical time that was moderated by tactus to musical time that was monitored by metronome. Even with these technological advances, the heartbeat continued to be a reference for speed. Even today, playing “rhythmically” is a compliment, but playing “metronomically” is an insult. The idea of playing “musically” implies that musicians may practice with a metronome ... but they perform with their hearts.



## In the Key of English

RICHARD NASH

Welcome back. Musicology is now behind us, French and Italian still lie before us—*now* is the time for English. I am Richard Nash, Professor of English here at IU, and it is my great pleasure to facilitate the discussion of these papers by Michael Gavin, Associate Professor of English at the University of South Carolina, and Nick Valvo, Lecturer in English at Northwestern University. Gavin's first book, *The Invention of English Criticism, 1660-1715* (Cambridge, 2015) demands our careful attention for at least two reasons. First, he insists that the unruly, contentious, and highly personal realm of lampoon, invective, and railery played at least as important a part as did the more polished and urbane participation in a bourgeois public sphere in the creation of modern "criticism" (to which I raucously say, "Hear, hear!"). And second, no less important to this crowd, I am sure, the cover art of his book displays one of the most execrable Edward Collier letter racks of all those so very familiar to us.<sup>1</sup> Having provided us with a more unruly origin for literary criticism, Michael is now turning his attention to exploring new models for literary history—which bring him and us to the digital humanities and questions of scale. Nick Valvo's recent dissertation "Penurious Payments: Debt, Dependence and Communal Form in Eighteenth-Century England" (University of California Davis, 2017) has already given rise to publications in *Interdisciplinary Literary Studies* and *Eighteenth Century Theory and Interpretation* and, judging from the titles alone, I have the impression—correct me if I am wrong (though not too loudly)—that the dissertation may be about to grow into not one but two monographs. Whether or not I am right about this, it is clear Dr. Valvo has a deep and abiding interest in two subjects: the parish and death. This means that while in the eighteenth century he would have been destined for the clergy, in the twenty-first he will be banished to an English Department.

What is it then that we will be discussing in this session? Exactly what you would expect to discuss in an English Department: the parish, religious affiliation, geographic analytics, quantification, and—of course—mathematical structure (so dear to all our hearts). For it is a truth universally acknowledged that an English professor in possession of a good paper shall never be in want of an area of expertise (as long as the paper is written *in English*—this is how we define our 'discipline'). You may say this characterization is unfair and I would only say in reply, "That's what you get for asking me to do this comment."

Having introduced our presenters, however glibly, let me—before they heckle or haul me off stage—destroy their arguments. I will give them each a chance to respond before opening the boards to serious questions from the serious audience. I am not going to attempt to be either fair or comprehensive in my summaries. For the diligent among us who have already thoroughly familiarized yourselves with their arguments, I will be gesturing toward a few landmarks that may well remind you of a larger vista that you recall still more clearly than I do. For those of you still struggling with the arduous voyage that

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<sup>1</sup> Editor's Note: The Center's founding director, Dror Wahrman, had recently completed his study of these paintings; see *Mr. Collier's Letter Racks: A Tale of Art and Illusion at the Founding of the Modern World* (Oxford: Oxford University Press, 2012).

brought you here or the whirl of activities that have distracted you thus far, my remarks will be intended to conjure a distant land that you can only vaguely imagine but that you will desperately hope to explore more carefully with more expert guidance. In short, think of my remarks as one of those “bad” eighteenth-century maps: not drawn to scale and full of provocative errors.

In particular, as I discuss some of the features from Michael’s essay, you may want to re-acquaint yourself with the various maps, graphs, word clouds, etc. he presents and that either supplement or replace the more prosaic mode of argument which he offers in a dozen earlier pages. That argument is a theoretical argument—I know I am on safe ground here because he writes, “my argument is primarily theoretical”—to explain and defend the proposition that might be called “the historical-geospatial-semantic hypothesis.” Unlike many theoretical arguments, however, this one—though it sounds truly daunting (historical. geospatial. semantic. hypothesis)—turns out to be quite user friendly: “Similar places in similar times tend to be described using similar words.” At the risk of over-simplification, my observation (and I will pose it as a question), has to do with the juxtaposition of the “similars” and of the “tend to be.” The claim would be dramatically different and I think both more and less dramatic, if one could replace “tend to be” with “are.” But “are” in that sentence would flatten the world entirely.

What I take to be the importance of the argument being advanced is not that similar words describe similar places in similar times, but that this is a tendency strong enough to be generally reliable but not universally predictable. And that, moreover, such general tendencies have use value, especially for big-data analytic approaches, by charting expectations within which deviations either do or do not deserve greater attention. I want to press that and suggest that the historical-geospatial-semantic hypothesis allows us to map the world that early-modern geographical texts *sought* to find against which we might better consider the world they actually did find. Do you agree that this is implicit in your argument? I am both drawn to the idea and a bit nervous about it. You write on page seventeen “The goal of creating several different models is not to evaluate them for consistency or accuracy against some putatively objective reality. Instead, the purpose is to find points of commensurability across them and to highlight areas of divergence ... so to unpack shared axes of spatial reference over EEBO [Early English Books On-line] documents.”

The questions that then follow are, it seems to me, questions about how knowledge of the world in this period was organized *as knowledge*, in accordance with the geospatial-semantic hypothesis. Now this may be right, or it may not be—you tell me—but if it is, then I wonder if you have not ‘buried the lede’ (as they say) since so many of these writers claimed to be driven by a series of empirical commitments that insisted on consistency and faithfulness to much more than a putative reality. How deeply at odds, in short, is your epistemic mapping with the empirical claims of those whose works you are mapping? Finally, a small point: on page 19, you reassure us that “cosine similarity is a variation on the very simple measurement of the ‘inner product’ or ‘dot product’ that all humanists learned in middle school.” I reply with the charge that you must have attended a private school, because you claim to have learned anything in middle school at all! So I encourage you to tell us more about how you do—and more important, how we might be brought to do (remember, there are almost certainly people in this room who think of a “vector” as a sportscar)—the actual nuts and bolts of what you are doing.

Nick Valvo's initial claim was less theoretical than historical, but presented in the form of an equally lucid hypothesis: "That the apparent discontinuity [can be resolved] by considering *the specific vision of the state from which liberalism sought emancipation*—or, to make my connection to our chosen theme more explicit: its scale." What I take from Nick's analysis is that the parish, which had functioned for centuries as the mode of communal life that organized spiritual, economic, political, and affective relations, was coming to its end. It began to fade out in the late eighteenth century. I am reminded of Raymond Williams' helpful triad of dominant, residual, and emergent modes—for one sees in this analysis, I think, the parish transitioning from a dominant to a residual function in organized social life, even as one sees emergent sentimentalism gaining greater ascendancy. It's the rhythm of that movement that I find especially interesting. "It should be easy to see," Nick writes, "how sentimentalism is in tension with parochial cultures of neighborliness. From the perspective of sentimental disinterest, the whole gamut of parochial relationships can be indicted as worldly and self-serving for the way they combine affect and self-interest." I am not sure what I see written more clearly between the line of Nick's analysis. Is this the defining feature of the genre of the novel, where the tensions between the parochial and the cosmopolitan define how communal organization will be realized? It seems to me that is one direction this analysis might lead. Or is it a defining feature of the republican nation-state that we see here (I have been thinking a lot about the current immigration ban lately)? In either case, I invite both of you to respond to my comments and I invite our listeners to gather their thoughts and prepare their own questions.

# The Mathematical Structure of Geographic Description

MICHAEL GAVIN

“The seventeenth-century English textual landscape,” writes Cynthia Wall, “was well populated with the praxes of textual description.”<sup>1</sup> Indeed, geographical accounts of the British Isles flourished during the period. William Camden’s magisterial chorography, *Britannia* (1586), first translated into English in 1610, gathered detailed maps and prose descriptions of English towns, cities, and parishes. His work was reprinted, adapted, and imitated throughout the century. John Adams’s extraordinary *Index Villariorum* (1690) estimated the locations and basic demography of 24,000 English towns, using the latest techniques of analytical geometry for projecting the curvature of the Earth onto a two-dimensional cartographic plane. Geographical descriptions were not limited to England, however. They roamed over all parts of the known world: topographical dictionaries contained fantastical accounts of Asia, America, and Africa, as well as of the Arctic and Antarctic zones. Textbooks like *Cosmographia* (1679) and *Geography Anatomiz’d* (1699) provided chorographies of the world while instructing readers to use globes and maps to find places and to calculate relations among them. More practical reference manuals like James Wadsworth’s *Evropean Mercury* (1641), John Ogilby’s *Book of Roads* (1675), Thomas de Laune’s *Present State of London* (1681), and Laurence Echard’s *Newsman’s Interpreter* (1692) mapped places along spatial networks by describing roads, postal services, and stage-coach routes that connected London to cities across the British Isles, Europe, and Asia.

The “English textual landscape,” to return to Wall’s phrase, was not a landscape at all, but an ever-growing body of descriptive prose oriented globally and organized mathematically. Geographical description differs from other language by relying explicitly on an underlying spatial model. Like other words, toponyms acquire meaning through differentiation. “Worcestershire” was used differently from “Aberdeenshire,” and “England” was used differently from “Madagascar.” But they also depend for their meaning on a sense of place that separates them spatially: provinces of France are close; the Arctic and Antarctic zones are far apart. How were such distances conceptualized? The geodesic distance that separates two places could be estimated by applying trigonometry to a model of the Earth’s shape, and geographical dictionaries often included coordinates of latitude and longitude along with instructions for performing such calculations. Adams’s *Index Villariorum* accompanied a large atlas of England that located its places within a network of spatial distances. The travel distance that separates two places could also be estimated by measuring paths over a network of roads or rivers. Ingolstadt, Vienna, and Budapest could all be reached by floating the Danube, while a journey from Paris to Rome involved many stops and required changing carriages several times. And at its most basic, chorography grouped toponyms into categories resembling tree-shaped directed graphs in which the globe was divided into continents, continents into nations, nations into regions, and so on.

This paper combines corpus linguistics, geographic information science (GIS),

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<sup>1</sup> Cynthia Wall, *The Prose of Things: The Transformation of Description in the Eighteenth Century* (University of Chicago Press, 2006), 41.

and network analysis to describe the mathematical foundations of seventeenth-century geographical discourse. Working from a small corpus of chorographies, textbooks, and travel guides taken from the *Early English Books Online* collection, I have created three tightly related datasets.

The first is a collection of several thousand place descriptions, organized by toponym. The second is a geospatial database that contains the latitude and longitude of each place and that uses custom functions to measure geodesic distance according to methods prescribed in seventeenth-century reference books. The third is a network model of toponyms, showing how each document in the corpus organizes places in relation to each other. Across these models, measure the *distribution of geographic diction*; that is, I compare and contrast the vocabulary of place descriptions in the corpus, and I evaluate similarities and differences in the language with proximities and distances over the geospatial models.

My immediate aim is to test the following hypothesis: If geographical description is meaningfully structured by underlying spatial models, similarity in diction should tend to correspond to proximity in space.<sup>2</sup> My analysis shows that this hypothesis largely holds, but that “proximity in space” depended on historically contingent frames of reference. In seventeenth-century discourse, China and Africa, for example, were further from England than France was, both spatially and semantically, but they were described using a common language of exoticism and so were more similar to each other than would be predicted based on the geodesic distance that separated them. In general, I expect that network-path distance will be better than geodesic distance at predicting semantic difference: places that were connected in physical or conceptual networks had more in common, in the seventeenth century, than places that were merely proximate on the globe. However, language remained strongly geo-correlative, and the *Early English Books On-Line* collection distributes meanings into geographic regions with a clarity of distinction that is, perhaps, surprising.

My larger goal is to invite scholars of eighteenth-century literature and culture to take another look at space theory and, in particular, to introduce them to theoretical traditions in mathematics, information science, and geography that are newly relevant to our field. Statistical models of word meaning were first designed in the 1950s (though linguists at the time lacked the requisite data or computing power), and geography was among the first disciplines, in the 1960s, to reconceive its subject by incorporating the mathematical innovations of graph theory.<sup>3</sup> Even in the seventeenth century, geogra-

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<sup>2</sup> Geospatial semantics thus combines the “distributional hypothesis” of computational semantics with the principle of *spatial autocorrelation* in geography. See Zellig Harris, “Distributional Structure,” *Word* 10 (1954), 146-162 and Luc Anselin, “Spatial Econometrics,” in Badi Baltagi, ed., *A Companion to Theoretical Econometrics* (Blackwell, 2001).

<sup>3</sup> For computational semantics, see Harris (1954), Warren Weaver, “Machine Translation” (1955) in S. Nirenburg et al., eds., *Readings in Machine Translation* (MIT Press, 2003), J. R. Firth, *Papers in Linguistics* (Oxford, 1957). For the mathematical foundation of graph theory, see Oystein Ore, *Theory of Graphs* (American Mathematical Society, 1962) and Frank Harary, et. al., *Structural Models* (Wiley, 1965), and for its application to geography see Peter Haggett and Richard Chorley, *Network Analysis in Geography* (Edward Arnold, 1969), Marc Barthélemy, “Spatial Networks,” *Physics Reports* 499 (2011), 1-101, and Rob Shields, “Cultural Topology: The Seven Bridges of Königsburg,” *Theory, Culture, & Society* 29:4/5 (2012), 43-57. The basic principles of

phy was the first of the human sciences to rely explicitly on mathematics: circumnavigation of the Earth popularized three-dimensional spatial models that required fairly complex geometric solutions. Much of my presentation will be devoted to narrating these analogous histories. Now, with the advent of full-text corpora like *EEBO* and *ECCO*, a similar transformation is underway in literary and cultural studies.<sup>4</sup> This change is often understood as a change in scale, but my presentation suggests a different viewpoint.<sup>5</sup> Quantitative methods don't require big data. Instead, they require creative theorization.

Geographic information science treats space as a complexly layered, multi-dimensional object in which the distance between any two points is not fixed but subject to varying description and continuous change. Geographers of the seventeenth century knew, too, that space was nothing so easily thinkable as a landscape. Tracing the spatial distribution of historical textualities requires of cultural history a similarly rigorous theory.

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GIS and quantitative geography are explained in Fotheringham, Brunsdon, and Charlton, *Quantitative Geography Perspectives on Spatial Data Analysis* (SAGE Publications, 2000) and Ian Gregory and Paul Ell, *Historical GIS* (Cambridge, 2007).

<sup>4</sup> *Eighteenth-Century Collections Online* is still largely closed to scholars, but the public release of *Early English Books Online* documents by the Text Creation Partnership in 2015 has stimulated significant advances in computational scholarship. See, for example, Laura Estill, Diane Jakacki, and Michael Ulliot, eds., *Early Modern Studies after the Digital Turn* (Iter & ACMRS, 2016). The eighteenth century will soon become a dark age if our archive is not modernized.

<sup>5</sup> For "scale" as the central problematic, see English and Underwood (2016).

## Scale, Sentiment, Sociability

NICK VALVO

Scale has been an important, if sometimes unspoken, factor in recent thinking on the passage to modernity in Britain. In some of these accounts, a new achieved scale indicates that a kind of telos has been attained, a historical transition effected. I have in mind Linda Colley on *British* national identity, or some of the work on world systems, marketing activity, or the formation of the infrastructure state. James Vernon has explicitly sought to rehabilitate a narrative of modernization by grounding it in new patterns of sociability over longer distances. The anonymity produced by urbanization and emigration produces experiences that Vernon judges we can safely call “modern” without any undue whiggishness.<sup>1</sup>

I am ambivalent about these historiographical developments. I find the ambition exciting, and the effort to link quantitative change to qualitative change desirable. But I think it is at least as important to make sure that the quantitative/qualitative linkage goes in both directions: we need also to address the qualitative character of the local scale being abandoned and really understand the material forces and cultural politics that motivated its repudiation. We need to ask what it was that contemporaries were scaling *away from*. When we attend to this, my wager is that we will find that our modernization narratives participate in a longstanding critique of the parish as a communal form, a critique with roots in the eighteenth century. The nineteenth-century historicism on which much of our social historiographical edifice is erected relies on categories drawn from anti-parochial cultural politics; in this piece, I will be discussing those associated with sentimentalism and evangelical religious movements. Many of the nineteenth-century social and historical categories we have used to describe passages to modernity — from Sir Henry Maine (“status to contract”) to Ferdinand Tönnies (“*Gemeinschaft und Gesellschaft*”) — tacitly blend prescription with description in ways that are important but not obvious.<sup>2</sup>

It is striking for scholars of literature that for both Maine and Tönnies, modernization is a process involving shifting patterns of affective investment. One could add to the list Thomas Carlyle, Sir Walter Scott, the Young Marx, or even Max Weber (in some readings) without changing the interpretation overmuch, except to note that some of these writers value the change in very different ways. John Mullan suggested years ago that sentimental fiction tried (and generally failed) “to make society on the page,” building it

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<sup>1</sup> A representative sample of the kinds of work I have in mind: Linda Colley, *Britons: Forging the Nation 1707–1837* (New Haven: Yale University Press, 2005); Giovanni Arrighi, *The Long Twentieth Century: Money, Power and the Origins of Our Times* (New York: Verso, 2010); Axel Leijonhufvud, “The Individual, the Market and the Division of Labor in Society” in *Capitalism and Society* 2, no. 2 (Winter 2007), 3; Jo Guldi, *Roads to Power: Britain Invents the Infrastructure State* (Cambridge: Harvard University Press, 2012); James Vernon, *Distant Strangers: How Britain Became Modern* (Berkeley: University of California Press, 2014).

<sup>2</sup> This effort is part of a larger project on the parish as an object of aesthetic and political theory, tentatively titled *The Parish of Parnassus: Religion, Economics and Literature in the British*

up from sentimental microfoundations in the manner of Adam Smith.<sup>3</sup> In light of the argument I want to make about scale, sentiment looks instead more like a social solvent, a means for the divestment of affective energy from the local scale, with an eye to its reinvestment in the national or cosmopolitan.

It is worth acknowledging from the outset that I am equally dependent on these same narratives. This may well be unavoidable: almost all of our qualitative social history owes significant debts to Tönnies, debts which give my effort to describe the decline of the parochial communal form a kind of Ouroboros-like quality. The very historicism we use to approach and describe the phenomenon makes us participants in it. The only hope is a speculative move, in which the recognition of these implicit political commitments makes it possible to understand these representations as part of the phenomenon under discussion.

I want to approach these questions from a slightly oblique angle, introducing another related concept—*liberalism*—which I hope will help produce a vocabulary for thinking the cultural politics of communal form, and make recognizable the commitments of *some* nineteenth-century historicisms. In so doing, I am trying to reopen the question of liberalism's place in the political-theological terrain of eighteenth-century Britain, and to call into question the Weberian metonymies that tie liberalism so immediately into categories we associate with Dissent. I hope instead to make visible the ways that liberalism responds to imperatives emerging from Anglicanism: namely, the problematic relationship between sentiment and sociability in Anglican parochial life.

Scale as a category can help us approach a number of persistent problems related to the arrival of liberalism. And trying to think about liberalism can in turn help us recognize what is interesting about the parochial scale. This reclassification of liberalism as a political-theological intervention against the parish prompts us rethink what *eighteenth-century* liberalism might have been and how its parts held together (if indeed they did).

A pair of linked problems will get us started. The first is what we might call the Jonathan Clark problem. One of Clark's most striking concerns, which comes up in both *English Society* and *The Language of Liberty*, is the surprising lack of evidence for a continuous tradition of Lockean liberalism.<sup>4</sup> The "classical" liberalism that has been imputed to *The Two Treatises* and the *Letter Concerning Toleration* is both strangely a half-step out of rhythm with the political moment of its own publication (per Laslett) and perhaps even further out of step with Locke's other political writings and activities, which have come to appear in recent years more as theories of slavery than of liberty.<sup>5</sup> Furthermore, this so-called classical liberal tradition appears to Clark (as it does to me) to have precious little salience in the political-theological conversations and debates of the British eighteenth century. These latter were mostly about oaths and oath-keeping, theorizing obedience,

<sup>3</sup> John Mullan, *Sentiment and Sociability* (Oxford: Oxford University Press, 1988). Adam Smith, *The Theory of Moral Sentiments* (Indianapolis: Liberty Fund, 2009).

<sup>4</sup> J.C.D. Clark, *English Society, 1660-1832*, 2nd ed. (Cambridge: Cambridge University Press, 2000); J.C.D. Clark, *The Language of Liberty, 1660-1832: Political Discourse and Social Dynamics in the Anglo-American World* (Cambridge: Cambridge University Press, 1994).

<sup>5</sup> For example, his response to colonial enslavement of indigenous Americans. See Brad Hinselwood, "The Carolinian Context of John Locke's Theory of Slavery," *Political Theory* 41: 4 (August 2013), pp. 562-590; Peter Laslett, "The English Revolution and Locke's 'Two Treatises of Government'," *Historical Journal* 12:1 (1956), pp. 40-55.



and coexistence with religious minorities: to be sure, all issues that *could well have been* theorized in Lockean terms, but appear on the whole not to have been. Contract theory might have been a productive way of thinking oaths and obedience and “distinguishing exactly” the boundary between civil and religious life is an approach to religious diversity we now recognize (even as its profound limitations are everywhere apparent).<sup>6</sup> But this is not the approach we generally see in the period; at least, not until Locke had been dead for over a century. The problem, then, is to account for the century-long hibernation of the liberal political tradition. Or maybe, the problem is to determine if there can even be said *to be* such a tradition.

The second problem we might name for Boyd Hilton. Since Weber, we have associated the arrival of a “spirit of Capitalism” with Calvinist Protestantism. Weber defines this “spirit” somewhat loosely and gesturally, with reference to a long set of quotations from Benjamin Franklin, mostly about credit, discipline, and the maintenance of reputation, quotations which are presumed to speak for themselves.<sup>7</sup> But Hilton suggests (at least in England) a different set of theological commitments and motivations for the first generation of actually-existing liberals than Weber would lead us to expect.<sup>8</sup> If Hilton is correct, the bearers of political liberalism were evangelicals in the mold of Wilberforce and the Clapham Sect: most of these people are Anglicans, some quite high church. In contrast to Weberian readings of capitalism’s compatibility with Calvinist doctrine, this evangelical liberalism was a kind of accelerationism, in which the humiliations and abasements dispensed by the freed hand of the market redound to the future holiness of the nation through a kind of market-based *moral pedagogy* incompatible with Calvinist views of “election” or “calling.” It is not Calvin or even Luther that these people look back to, but the Wesleys or Lady Huntingdon’s Connexion—evangelical movements *within* the Established Church. There’s no elect in this vision, but there are very strong senses of the assurance of salvation available in life, what John Wesley would have called “the fruits of faith.” Indeed, the “powerful feeling of light-hearted assurance” which Weber sees as an emotional crutch that his highly-schematized Calvinism *has overcome*, is for these people the primary register of religious experience.<sup>9</sup>

There were more Arminians than Calvinists among their number but, in any case, Hilton suggests that the sort of soteriological distinctions about predestination that Weber sees as central had come to appear less salient (even irrelevant!) by 1815. Evangelicalism in Hilton’s definition is a “religion of the heart” that disarticulates and cuts across familiar boundaries of religious affiliation and political theology in ways that can be a bit bewildering. Some of these men and women were Anglicans, some Dissenters. Some high

<sup>6</sup> John Locke, *A Letter Concerning Toleration* (London, 1689).

<sup>7</sup> Max Weber, *The Protestant Ethic and the Spirit of Capitalism*, tr. Talcott Parsons, intr. Anthony Giddens (New York: Routledge, 2005), 14-16.

<sup>8</sup> The library reveals that political theorists have anticipated my little joke, which is of course a reference to the disappointing “actually existing socialism” of the twentieth-century East bloc. Cf. Barry Hindess, “Political theory and ‘actually existing liberalism’,” *Critical Review of International Social and Political Philosophy* 11, no. 3 (September, 2008), pp. 347-352, especially the discussion of nineteenth century liberal imperialism on p. 349.

<sup>9</sup> Boyd Hilton, *The Age of Atonement: The Influence of Evangelicalism on Social and Economic Thought, ca. 1795-1865* (Oxford: Oxford University Press, 1988).

church, some low. Wesley, for example, had been a full-throated passive obedience Tory, right up to the brink of Jacobitism, even as many of his followers had inclined towards whiggishness and a few towards radicalism.<sup>10</sup> The various late-eighteenth-century schisms reflect this: Selina Hastings, Countess of Huntingdon, was finally forced out of the Church of England in 1779; the Methodists held on until shortly after John Wesley's death in 1791. These schisms effectively produced high-church dissenters—not many, but some. These people, or their descendants, would in the 1840s found the Free Church of England, who style themselves non-Church-of-England Anglicans (complete with their own Bishops, the Thirty-Nine Articles, and the *Book of Common Prayer*).<sup>11</sup>

It is a confusing picture, but that is the point. Methodism and its evangelical cousins are incoherent in terms of the Whig/Tory or Arminian/Calvinist distinctions, but not only did this not appear to eighteenth-century evangelicals to be much of an obstacle, it might be better described as a key source of their success. It would be an exaggeration to say that these evangelicals were *uninterested* in doctrine, but it was certainly not their emphasis. It took Whitefield and Wesley almost a decade of cooperation to realize that they agreed on basically none of the traditional questions of political theology; this suggests to me that their priorities lay elsewhere. What in fact unified the Methodists, and many of the evangelicals in their wake, was anti-parochialism. I suggest that this is behind most or all of the distinctive features of the Methodist Awakening: the circuits of itinerant lay ministers preaching in fields and barns, the parallel community organizations of bands and select bands, love feasts and revival meetings, and the transnational networks linking British and American Methodists to Continental pietists; parallels might be found in Lady Huntingdon's Connexion's 120 chapels (*Church of England* chapels!) and links to Maritime Canada and eventually Sierra Leone. What I've nicknamed the Boyd Hilton problem, then, questions the link between British political theology in its traditional form—the competing claims of Parliament, Crown, and the Episcopate—and the modernization narrative that long accompanied it.

If Whig historiography drew a direct line from seventeenth-century low-church Parliamentarians to achieved nineteenth-century liberalism, Hilton's account positions the Evangelical revival and the growing cultural influence of such groups from the 1770s as a *deus ex machina*, a sudden plot twist entirely unaccounted for in Act I. Neither Wesley nor Selina Hastings had any interest in Locke. A hypothesis, then: what connects the apparent discontinuity of the liberal tradition to the doctrinal incoherence of the Evangelicals central to actually-existing liberalism is the *specific vision of the state from which liberalism sought emancipation*—or, to make my connection to our chosen theme all the more explicit, its scale.

The Anglican parish was many things at once. It was the basic cell of both church and state, its officers responsible for making provision for both the spiritual care and social welfare of their charges. It was a theater for the patronage activities of prominent men and women, and a venue for the artists, clergymen, and intellectuals they supported. Its

<sup>10</sup> David Hempton, *The Religion of the People: Methodism and Popular Religion c. 1750-1900* (New York: Routledge, 1996).

<sup>11</sup> There are 20 congregations of this group in the United Kingdom today; John Fenwick, *The Free Church of England: Introduction to an Anglican Tradition* (London: T&T Clark, 2004).

outlines, within which neighbors knew each other at least by sight and reputation, were roughly congruent with the bounds of networks of informal credit and mutuality, making parishes key milieux for everyday economic activity in a society where cash payment was more the exception than the norm.<sup>12</sup> What was distinctive was the way that they all overlapped in an expressive unity: the parish was a social space in which several modes of social relations—spiritual, economic, political, affective—dissolved into one another. This mode of communal life emerged by accretion under the Tudors, survived the Civil War and the Restoration under increasing strain, and began to fade out in the late eighteenth and early nineteenth centuries. The 1866 statutory split between civil and ecclesiastical parishes was likely just a formal acknowledgment of a state of affairs that had been the case for decades.

These credit networks were governed and organized by a discourse of creditworthiness, a kind of semi-systematic gossip by means of which neighbors refereed which of their neighbors deserved access to credit and social support, on the basis of a set of criteria far broader than any perceived likelihood of repayment: “respectability,” moral uprightness, industriousness, appropriate religiosity, sexual discretion, sobriety, friendliness, political compatibility, and so on. Such moral, affective and political criteria were often given *more* weight than what we might anachronistically think of as strictly financial criteria. We are far from the world of the FICO score, here: “creditworthiness” wasn’t a probabilistic judgment of likelihood of repayment. In fact, it wasn’t really about repayment at all. An eighteenth-century household that could successfully perform these qualities could likely sustain very high levels of debt, levels that now seem totally implausible. A good reputation, in short, was a very real asset.

For many Britons, access to such credit was the primary form of wealth. The social historical literature suggests that while a laborer working 300 days per year could earn in the range of £13 to £16, the cost to support a family of four would have been closer to £18 or £20. This is a considerable deficit, much of which was almost certainly forgiven as desperate debt.<sup>13</sup> Craig Muldrew’s work on King’s Lynn suggests that the £1 3s contributed by the average rate-payer to the parish welfare system each year was dwarfed by

<sup>12</sup> Deborah Valenze, *The Social Life of Money in the English Past* (Cambridge: Cambridge University Press, 2006), p. 147. There are of course exceptions and outliers. Halifax, for interesting historical reasons, had grown by the time of Defoe to be a large single parish consisting of a number of large towns and villages inhabited by over one hundred thousand people—effectively a large city governed as a single parish. The parish had received important privileges during the Tudor period, which I suspect disincentivized subdivision even as the area gained population over the succeeding centuries.

<sup>13</sup> Margot Finn, *The Character of Credit: Personal Debt in English Culture, 1740-1914* (Cambridge: Cambridge University Press, 2003), pp. 19-22; Craig Muldrew, *Economy of Obligation: The Culture of Credit and Social Relations in Early Modern England* (London: Palgrave, 1998), pp. 82-85; Amy Louise Erikson, *Women and Property in Early Modern England* (New York: Routledge, 1993), pp. 50-52; Keith Wrightson and David Levine, *Poverty and Piety in an English Village: Terling, 1525-1700* (Oxford: Oxford University Press, 1995), ch. 2; Donald Woodward, *Men at Work: Labourers and Building Craftsmen in the Towns of Northern England, 1450-1750* (Cambridge: Cambridge University Press, 1995), pp. 239-240; Steve Hindle, *On the Parish?: The Micro-Politics of Poor Relief in Rural England c.1550-1750* (Oxford: Oxford University Press, 2004), pp. 76-78.

the more than £24 per annum expended through debt forgiveness, rent abatements, and similar intercessions.<sup>14</sup> Creditworthiness was first of all a discourse of affiliation: it marked the exterior boundaries of communities and structured the hierarchical relationships within them. The extension of credit was a gesture that carved out its own future: it indicated an expectation of eventual repayment but also of an intervening period of interdependence and, hopefully, amity. It was also a gesture that indicated a shared past—a phatic transaction that strengthened ties among people who *knew one another already*.<sup>15</sup> Credit relationships overlay the links of amity and kinship that tied households to their neighbors; a combination of cultural norms and the Elizabethan welfare state anchored them to their home parish.<sup>16</sup>

To be clear, I am not saying *at all* that the parish provided a desirable or egalitarian politics. Its system was one of patronage. Credit was socially integrative, *for good and ill*: it indicated inclusion and support, but also served as a disciplinary mechanism for a kind of parochial governmentality.<sup>17</sup> We might think of the discourse of creditworthiness as a kind of soft contractarianism, soft in the sense that it combined Keith Wrightson’s “two concepts of order” (“one plebeian, malleable and accommodating, the other rule-based and enforced from above”) into one.<sup>18</sup> But in an all-but cashless economy, it made economic life possible.

Just as eighteenth-century diasporas of Jews, Armenians, and Huguenots made possible ocean-spanning networks of financial correspondence, parochial communities similarly assigned the relationships of *neighborhood* double duty as local financial infrastructure. “Neighborhood” in the early modern usage was a state of being, not a place; people might aim to “live in good neighborhood” with surrounding households. But we need to be guided by the full Christian understanding of the *neighbor*, and acknowledge the complexity, ambivalence and discipline of the love which we are enjoined to maintain for that neighbor, as a foundational political-theological concept in eighteenth-century Britain.

<sup>14</sup> Muldrew, *Economy of Obligation*, p. 309.

<sup>15</sup> The “phatic” dimension of language is drawn from Bronisław Malinowski, “The Problem of Meaning in Primitive Languages” in Ogden, C. K. & I. A. Richards, *The Meaning of Meaning: A Study of the Influence of Language upon Thought and of the Science of Symbolism*, (New York: Harcourt, 1946), 296-336.

<sup>16</sup> This appears to have been as true of urban parishes as rural. Jeremy Boulton’s work on early modern Southwark finds a very low rate of emigration beyond individual parishes, even in densely populated areas where those parishes are spatially tiny and thus proximate. Jeremy Boulton, *Neighbourhood and Society: A London Suburb in the Seventeenth Century* (Cambridge: Cambridge University Press, 2005), p. 227.

<sup>17</sup> Julian Hoppit, “Attitudes to Credit in Britain, 1680-1790,” *The Historical Journal* 33, no. 2 (1990): 305-322; Ilana Krausman Ben-Amos, *The Culture of Giving: Informal Support and Gift-exchange in Early Modern England* (Cambridge: Cambridge University Press, 2008); Hindle, *On the Parish?*, ch. 4. For trans-Atlantic credit networks, Mark Peterson’s work on Boston, Massachusetts as a “city state” at the center of a trans-Atlantic “Protestant International” is highly suggestive. Mark Peterson, “Theopolis Americana: The City-State of Boston, The Republic of Letters, and the Protestant International, 1689-1739” in Bernard Bailyn and Patricia Denault, eds., *Soundings in Atlantic History: Latent Structures and Intellectual Currents: 1500-1825* (Cambridge, Harvard University Press, 2009).

<sup>18</sup> Keith Wrightson, “Two Concepts of Order,” in *An Ungovernable People*, ed. John Brewer and John Styles (New Brunswick: Rutgers University Press, 1980), 21-46. A classic.

Contracts are to be enforceable, but only so far as is compatible with the continuity of cohabitation within the community. Ruptures and fallings out, of course, were more than possible; lawsuits which could result in imprisonment, flights to debt sanctuary, and emigrations to the colonies often resulted. The point to be insisted on is that the financial relationship is only one dimension of a more complex relationship: it was in situations where the relationship was already strained that defaults, litigation, arrests, etc. resulted. Muldrew reports a court complaint in which the first *request* for an outstanding debt came *sixteen years* after it was due.<sup>19</sup>

The parish, as an affective/spiritual/economic/cultural milieu, therefore impinged on individual autonomy in a number of crucial ways. It muddled instrumental and affective relationships, as Naomi Tadmor has demonstrated so evocatively in her *Family and Friends in Eighteenth-century England*. Tadmor notes that contemporaries used “friend” in a way that leans more towards sources of support than it does towards affective intimacy. “Family,” in contrast, suggested a far more elective, volitional relationship in the period than the senses of all-but-inviolable bond it has adopted on our side of the post-sentimental cult of domesticity.<sup>20</sup> Her readings of the diary of Thomas Turner (a grocer in East Hoathly, Sussex) are illuminating. His conception of friendship (ideally mutual) centered on relationships of support among kin and non-kin alike. Turner’s friends rarely reached this standard and he was usually dissatisfied with them: in fact, Turner’s designations of people as “friends” most often came in the context of their having disappointed him! One such moment came with his realization that his mother never intended to pay him for goods she had purchased from his shop over several years: “[My] affairs are so connected with *my Friends*,” he wrote, “that I know not how to Extricate my self out of my trouble.”<sup>21</sup> The new eighteenth-century sentimental theories of friendship, in contrast, struggled against this notion to create a space for affect and affinity distinct from interest. Parochial sociability and status hierarchies—in which *friend* bled into *patron*—made this project an uphill climb.<sup>22</sup>

The larger community’s stake in moral evaluation could be similarly stifling. Think of the sacrament of communion, which turned the parish church into a kind of panopticon. Contemporary practice held that communion was to be accepted only by those who felt comfortable with their spiritual state. This made those weeks when the sacrament was administered—typically three or four times annually—difficult tests.<sup>23</sup> Parishioners would, through the decision to take communion or no, make an all-too public claim about

<sup>19</sup> An immeasurable majority of debt disputes never reached court, and Muldrew finds that only 16 percent of legal complaints in debt litigation moved beyond the initial stage of the process. Craig Muldrew, “The Culture of Reconciliation: Community and the Settlement of Economic Disputes in Early Modern England,” *The Historical Journal* 39:4 (Dec., 1996), pp. 915-942.

<sup>20</sup> Naomi Tadmor, *Family and Friends in Eighteenth-century England: Household, Kinship, and Patronage* (Cambridge: Cambridge University Press, 2001).

<sup>21</sup> Quote and discussion from Tadmor, *Friends and Family*, pp. 179-180.

<sup>22</sup> The same can be said for twentieth-century anthropology, albeit in the reverse. Julian Pitt-Rivers, “The Kith and the Kin,” in Jack Goody, ed., *The Character of Kinship* (Cambridge: Cambridge University Press, 1975), pp. 89-106.

<sup>23</sup> Norman Sykes, *Church and State in England in the XVIII Century* (Cambridge: Cambridge University Press, 1934), pp. 250-1.

their moral state. Their neighbors were watching, “staring all about them” as John Wesley complained to an unnamed correspondent from Truro, Cornwall, in 1757.<sup>24</sup> This informal supervision was supplemented by a more formal apparatus. The Clarendon code required parochial officials to keep track of who communicated and who did not; communion was also compulsory for various office holders. This mandatory keeping of records formalized a practice that some individual parishes had evidently already implemented through the use of communion tokens (sold for a few pence).<sup>25</sup>

Both Evangelical Christianity and sentimentalism rebelled against this sense of communal moral judgment. Sentimentalism looked to ground morality in the individualized sensible body of the subject, while evangelicals looked to the Holy Spirit, Who “itself beareth witness with our spirit, that we are the children of God” (a testimony experienced by the individual in an affective register).<sup>26</sup> Both wrested individual autonomy over moral self-representations from their community; both retheorized feeling as an *individual* quality, against *neighborhood*. I want to insist on this individual quality, even when it had another as its object or was intersubjectively communicable through the novelistic sublime of looks and tears; especially when this embodied sensibility or testimony of the Holy Spirit made possible new patterns of affinity that countered that of the parish (as we see in recent work on sensibility and interspecies affective communication or in the Methodist innovation of the band).<sup>27</sup>

The Methodist “band meeting,” so redolent now of group therapy, narrativizes spiritual development as a kind of personal project, pursued together with a group of intimates. In the privacy of their regular band meetings, each converted Methodist would be asked several strikingly intimate questions in turn.

1. What known sin have you committed since our last meeting?
2. What temptations have you met with?
3. How were you delivered?
4. What have you thought, said, or done, of which you doubt whether it be a sin or not?

<sup>24</sup> John Wesley, *Letters of John Wesley*, John Telford, ed. (London: Epworth, 1931), s.v. September 20, 1757. Wesley’s letters and journals contain at least a half dozen examples of complaints about people “staring about them” during church services or religious meetings. I suspect this is more significant than a mere pet peeve.

<sup>25</sup> We have surviving parochial token books, recording the purchasers of tokens, from many parishes, including some very old and intact sets from St. Saviour Parish, Southwark, reaching back into the sixteenth century. I am not aware of any older. These have been digitized by Alan Nelson and William Ingram. “The Token Books of St Saviour Southwark,” available at <http://tokenbooks.lsa.umich.edu>.

<sup>26</sup> Romans 8:16, KJV. This is the only scriptural text on which John Wesley composed *two* sermons.

<sup>27</sup> The question of sensibility as facilitating an embodied rhetoric of *advocacy* has been raised recently by Tobias Menely in *The Animal Claim: Sensibility and the Creaturely Voice* (Chicago: University of Chicago Press, 2015). I find the argument provocative and worthwhile, but still see it as operating within the scope of John Mullan’s research agenda in *Sentiment and Sociability*. Menely proposes sensibility as making possible a kind of “creaturely” community grounded in the mutual legibility of human and animal suffering.

5. Have you nothing you desire to keep secret?<sup>28</sup>

This was not an auricular confession to a priest, but neither was it the culture of neighborly credit. Contrary to the gossip associated with creditworthiness, the bands placed a striking emphasis on confidentiality. Methodists, meeting to testify to each other the secret state of their souls, were seeking the fellowship, solidarity and emotional intimacy of neighborliness without the forms of judgment that the discourse of creditworthiness implied. They were disarticulating neighborliness, looking for new modes of affiliation that uncoupled moral responsibility from its local determinations.

Methodism, we could argue, was a form of counter-neighborhood. David Hempton notes that Methodists were regularly accused of hypocritical pretensions to moral righteousness. “Methodism,” he writes, “was thus perceived to be new, disruptive and divisive, whether in families, villages, parishes or the state. As a result, apart from the customary element of hooliganism, most anti-Methodist rioters saw themselves as acting in defence of traditional values and community solidarity.”<sup>29</sup> Hempton is of course correct that contemporaries expressed all of these fears, but I think that the anti-parochial dimension should be given priority. Some of the anti-Methodist pamphlets reflect a sense of Methodism as just another version of Dissent, which is certainly inaccurate in the decades following the Great Awakening; Jonathan Clark is quite correctly emphatic about Methodist leaders’ great care in forestalling seditious activity.<sup>30</sup> The authority threatened by Methodism was not that of the King, Parliament or the Bishops, but rather that diffuse network of witnesses and gossips, creditors and debtors, parochial officials, tradesmen and JPs whose relationships structured the parochial discourse of creditworthiness. Hempton’s scholarship bears out this interpretation, even if he thinks about it in different terms:

Methodists ran into legal difficulties in English localities in the 1740s and 1750s because they were sufficiently unpopular with sufficient numbers of people to make them vulnerable. The mechanism by which vulnerability was translated into active hostility, with all its legal consequences, was good old-fashioned rumour mongering. There was no shortage of material.<sup>31</sup>

This “material” included rumors about Methodists’ deviant sexual practices, misappropriation or mismanagement of funds collected for church purposes, antinomianism, witchcraft, mysticism, etc. More plausible concerns focused on their unabashedly enthusiastic theology and role in perceived breakdowns of social and familial solidarity. That is to say, in broad outlines, that the Methodists were criticized with reference to many of the themes common in the discourse of creditworthiness: excessive religiosity, financial ethics, and sexual respectability.

<sup>28</sup> Quoted from Henry Ablove, *Evangelist of Desire* (Stanford: Stanford University Press, 1990), p. 55. Ablove notes that “eventually the fifth question was dropped.”

<sup>29</sup> Hempton, *Religion of the People*, p. 151.

<sup>30</sup> Quoted in Clark, *English Society*, p. 297.

<sup>31</sup> Hempton, *Religion of the People*, p. 150.

Sentimentalism was similar. I have argued elsewhere that the mid-century arrival of an ethical expectation that the affective and instrumental dimensions of social relations be kept separate is a critique of the parish.<sup>32</sup> This focus on disinterest enters the sentimental tradition with Frances Hutcheson's discussion of true benevolence in *An Inquiry into the Original of our Ideas of Beauty and Virtue* (1739), and is a characteristic theme of sentimental fiction from Richardson onward; the pamelist and anti-pamelist positions can more or less be delineated in these terms.<sup>33</sup> I would go so far as to suggest that almost all aspects of eighteenth-century culture we recognize as "sentimental" are united by this disavowal of instrumentality. To be sentimental is to distinguish marriage for love from marriage for material advantage, to keep a domestic animal that neither works nor yields food, to think about childhood and play in terms borrowed from Jean-Jacques Rousseau, or to adopt the cult of domestic femininity as self-sacrifice. Sentimentalism was a perspective from which the "benevolence of the butcher, brewer, and baker" could be cleanly and sharply contrasted with their "regard to their own interest," in the words of Hutcheson's student Adam Smith.<sup>34</sup> It should be easy to see, then, how sentimentalism is in tension with parochial cultures of neighborliness. From the perspective of sentimental disinterest, the whole gamut of parochial relationships can be indicted as worldly and self-serving for the way they combine affect and self-interest. In parochial discourse, the stranger had been suspect, perhaps dangerous; sentimentalism revalues the stranger, inclining instead towards the cosmopolitan.<sup>35</sup> Disinterested moral action is unrepresentable within the parish context: the affairs of the neighbor are in some sense too intimately known or bound up with one's own to allow him or her to be the subject or object of true benevolence or true love. Sentimental narratives therefore proliferate with strangers whose very alienation becomes in this new aesthetic the condition of possibility for authentic feeling.

Henry Brooke's long, digressive sentimental novel *The Fool of Quality* (5 vols., 1765-70) would not be ill-described as a series of strangers sharing stories, stories that serve as stimulus and substrate for the sentimental hero's warm responses and generous acts—all crucially deterritorialized from the parish. The moral goodness of Brooke's naïve hero Harry, an estranged younger son of a nobleman, is first recognized in childhood by a character known as "The Stranger," an old gentleman and adoptive father figure (eventually revealed to be his estranged uncle) who encourages Harry's generosity, instructs him

<sup>32</sup> Nick Valvo, "Sentimental Disinterest," in *The Eighteenth Century: Theory and Interpretation* 57: 4 (Winter 2016), 411-432.

<sup>33</sup> Frances Hutcheson, *An Inquiry into the Original of our Ideas of Beauty and Virtue* (London, 1739), p. 135.

<sup>34</sup> Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations* (London, 1776), ch. I:2

<sup>35</sup> David Simpson, *Romanticism and the Question of the Stranger*. Simpson considers the ambivalent figure of the stranger in a later period, giving the stranger a *national* framing. De Quincey's encounter with the Malay in *Confessions of an English Opium Eater* is on the far side of the scalar transition under discussion. On sentimental cosmopolitanism, see Markman Ellis, *The Politics of Sensibility: Race, Gender and Commerce in the Sentimental Novel* (Cambridge: Cambridge University Press, 1996). [Editor's Note: See also the papers in *The Workshop*, number 3, "Hospitality" (June 2015).]



in morality, and cultivates his sensibility.<sup>36</sup> After Harry comes to inherit, he spends more than an entire volume of the novel in a debt prison paying the releases of prisoners on the condition that they tell him their stories of suffering and personal reform. Like many other sentimental novels, then, Brooke's novel channels philanthropy and moral action away from the parochial culture of neighborliness and towards sentiment, in the process evacuating them of self-interest.<sup>37</sup>

A favorite illustration for the rise of "contract" as a concept in English legal thought is the comparison between Justice Blackstone and Sir Henry Sumner Maine. The two jurists and legal historians, conveniently separated by almost exactly a century, are a world apart on contract. Apparently unproblematic to his understanding of jurisprudence, contract is barely a presence in Blackstone's *Commentaries on the Laws of England* (4 vols., 1765-1769). Its most sustained treatment consists of about three thousand words of matter-of-fact discussion, dedicated to the demonstration that contracts can, under some circumstances, be a legitimate way of transferring titles in real property.<sup>38</sup> A century later, in 1861, Maine sees contract as the unique master concept governing not only English law, but the entire legal history of the West. This is perhaps the apotheosis of Victorian liberalism.

Maine's *Ancient Law: Its Connection to the Early History of Society, and Its Relation to Modern Ideas* may be a less familiar text for *dix-huitièmistes*, and so I will quote its most famous passage at length.

Starting, as from one terminus of history, from a condition of society in which all the relations of Persons are summed up in the relations of Family, we seem to have steadily moved towards a phase of social order in which all these relations arise from the free agreement of Individuals. In Western Europe the progress achieved in this direction has been considerable. Thus the status of the Slave has disappeared—it has been superseded by the contractual relation of the servant to his master. The status of the Female under Tutelage, if the tutelage be understood of persons other than her husband, has also ceased to exist; from her coming of age to her marriage all the relations she may form are relations of contract. So too the status of the Son under Power has no true place in law of modern European societies. If any civil obligation binds together the Parent and the child of full age, it is one to which only contract gives its legal validity. The apparent exceptions are exceptions of that stamp which illustrate the rule. The child before years of discretion, the orphan under guardianship, the

<sup>36</sup> Henry Brooke, *The Fool of Quality, or the History of Henry, Earl of Moreland*, 5 vols. (London, 1765-1770), I: 63.

<sup>37</sup> I don't want to make too much of this, but a later edition of Brooke's novel was (severely) abridged and introduced by none other than John Wesley: Henry Brooke, *The History of Henry, Earl of Moreland*, 2 vols. John Wesley, ed. (London, 1781).

<sup>38</sup> Citation to the Liberty Fund facsimile of Sir William Blackstone, *Commentaries on the Laws of England in Four Books* (Philadelphia: J.B. Lippincott Co., 1893), Book II, Ch. 30: "Of Title by Gift, Grant, and Contract."

adjudged lunatic, have all their capacities and incapacities regulated by the Law of Persons. But why? The reason is differently expressed in the conventional language of different systems, but in substance it is stated to the same effect by all. The great majority of Jurists are constant to the principle that the classes of persons just mentioned are subject to extrinsic control on the single ground that they do not possess the faculty of forming a judgment on their own interests; in other words, that they are wanting in the first essential of an engagement by Contract.

The word Status may be usefully employed to construct a formula expressing the law of progress thus indicated, which, whatever be its value, seems to me to be sufficiently ascertained. All the forms of Status taken notice of in the Law of Persons were derived from, and to some extent are still coloured by, the powers and privileges anciently residing in the Family. If then we employ Status, agreeably with the usage of the best writers, to signify these personal conditions only, and avoid applying the term to such conditions as are the immediate or remote result of agreement, we may say that the movement of the progressive societies has hitherto been a movement *from Status to Contract*.<sup>39</sup>

Let us leave aside the eyebrow-raising claim (in 1861!) that “the status of the slave has disappeared” in order to think about what contract means to Maine. Contract is a way of thinking human relationships as volitional or consensual, so long as the participants are competent to choose. What counts to him as competence is measured by a deceptively simple yardstick: judgment of self-interest. The relationships that he is trying to discuss in these terms include those of adult children to their parents, servants to masters, unmarried women with, apparently, anyone else. In this sense it contrasts with “status,” which Maine wants to use to represent a whole bundle of social relations, at the heart of which is kinship. Kinship for Maine is expressed in then-modern terms as a given and inviolable bond, and yet at the same time understood to be a residual form, characteristic of the past, in the midst of being overtaken by a superior liberal contractarian account in which we are all free to elect our affinities.

But think back to Thomas Turner: short of arresting his own mother—not, for any number of reasons, a realistic option—what was he to do? Certainly, civil law considers him, as her adult child, to be related to her only by the contract she has apparently breached, but the culture of neighborliness saw things differently. Who would willingly do business with a grocer so bloodthirsty that he had his own mother arrested for debt? It sounds like a satire of a stockjobber from a City comedy. But in any case, “self interest” is absolutely useless as a guide here; Turner has no remedy but to mope in his diary. How would Henry Maine understand this? Is the East Hoathly, Sussex of 1750 an *ancien régime* grounded on status or a realized liberal state grounded on contract?

I want to propose that the parish is a kind of symptom for Maine’s project, which irreducibly muddles the kind of legible self-interest he wants to make the condition of possi-

<sup>39</sup> Sir Henry Maine, *Ancient Law: Its Connection to the Early History of Society, and Its Relation to Modern Ideas* (London: John Murray, 1861), ch. V.

bility for contract.<sup>40</sup> Maine's continuum is structured by a vision of voluntarism and interest derived from two key forms of eighteenth-century anti-parish discourse: sentimentalism and Evangelicalism. He diachronizes what had been, in the eighteenth century, synchronic distinctions, and thus an achieved liberalism, for Maine, involves the invocation of a historicism that consigns the parochial communal form to an ever-receding past, irreparably disrupted by more elective modes of affinity.

Maine values this positively, and indeed, his description of a Victorian England on the verge of conquering distinctions based on status or person looks all but utopian in retrospect. Others, including Thomas Carlyle, are either less sanguine or more Romantic: in his 1841 essay "Past and Present," which gave us the term "Cash Nexus," he almost precisely anticipates Maine's historical argument. Unlike Maine, Carlyle *fears* that "all human dues and reciprocities have been fully changed into one great due of *cash payment*."<sup>41</sup> For Carlyle, little could be worse. I want to make sure to emphasize that the stark differences in how they value the results do not prevent the two historians from understanding the qualitative changes in human social life in near identical terms.

It is interesting in this connection that Maine's thinking is shaped by his work as a bureaucrat in India, and particularly the encounter with Hindu systems of caste. Lockean contractarianism, likewise, has always seemed a better fit as a theory for an imperial politics: it makes more sense for cross-cultural exchanges of furs for edge-tools in the woods of Michigan, or for theorizing the power of a Carolina tobacco planter over his slaves and servants than as an account of, let us say, agricultural labor relations in Yorkshire. Perhaps it would be helpful, then, to consider liberalism as at once an imperial *and* an anti-parochial politics: as the reimportation of a colonial politics back to the metropole with the aim of displacing the parish. Its key theorists, then, are men like Maine or Sir William Jones, both shaped intellectually by encounters with India; or Locke, theorist of slavery and author of *The Fundamental Constitutions of Carolina*. This argument would intersect with recent work by scholars like Joseph Massad, who describes a liberalism formed through the European encounter with Islam, or Domenico Losurdo, whose "counter-history" of liberalism convincingly identifies the central figure of American liberalism as Calhoun rather than Jefferson.<sup>42</sup>

What Blackstone acknowledged, but Locke and Maine rejected, was *custom*, indubitably one of the most important concepts in early modern British political thought. Custom grounded political legitimacy in a deeply emplaced traditionalism, which the entire project of reasoning from a state of nature sought to jettison root and branch. That emplaced dimension was a durable impediment to a *de novo* political philosophy; perhaps there is a reason that it was an Englishman who wrote *Utopia*. But custom also captures the way that political life takes place inside continuous time, embedded in a community that is already present, made up of households you already know and who already know you.

<sup>40</sup> It is no accident that Maine's other major work is a set of six legal historical lectures given at Oxford and published as *Village-Communities in East and West* (London, John Murray, 1871). The lectures compare and contrast Indian and European modes of village life.

<sup>41</sup> Thomas Carlyle, *Past and Present* (London: Chapman and Hall, 1843), ch. 6.

<sup>42</sup> Joseph Massad, *Islam in Liberalism* (Chicago: University of Chicago Press, 2015); Domenico Losurdo, *Liberalism: a Counter-history* (New York: Verso, 2011).

# The Novel by Numbers: Parameters for a Quantitative Study of Literary Evolution in the Long Eighteenth Century<sup>1</sup>

NICHOLAS D. PAIGE

This presentation involved the subject of scale in two ways. First, in the familiar sense of Digital Humanities' "distant reading" (Franco Moretti): my study of the novel's evolution incorporated data from approximately 900 works, each of which was tagged for various formal and paratextual characteristics. One may characterize this as a "larger" scale, in the sense of having many more data points than typical histories of the novel, or as a "smaller" scale, precisely because novels are shrunk to data points, rather than approached through 1:1 reading. But scale was also involved because of the tendency of history-of-the-novel scholarship to move effortlessly from the individual text—and often a very small part thereof—to The Novel writ large. Fine-grained readings of a classic thereby give way to assessments of what The Novel *is*: about the deep social, ideological, and subjective functions it performs within the Modern; about, even, The Novel's world-historical destiny. Thus, the selected objects of the literary historian become something like *chosen texts*—privileged signs or ciphers of something otherwise invisible and much, much bigger. As much as this paper sought to study more novels, it also resisted the scale shift involved when one uses a given class of objects to tell the momentous story of the coming of the Modern.

One particular version of this story recounts what Catherine Gallagher calls "the rise of fictionality." According to this idea—which has been around since a pioneering study of Lennard Davis's in the 1980s — the novel, over the course of the eighteenth century, doesn't so much become more and more closely aligned with reality (as Ian Watt had famously argued) but rather moves from being highly referential (a "true story" about "real people") to a genre unashamed of its own lack of literal truth. My immediate question was whether this rise could actually be observed in the French novel. If it could, did the shape of the rise support or undermine some of the explanations offered by scholars relying on evidence from carefully chosen texts?

The data gathered did indeed confirm that there was a rise of fictionality in eighteenth-century France, at least in the sense that by 1800 many fewer texts were advanced as literally true. Yet the pace of change undermined the frequent assumption that writers and readers were "discovering" some new mode of reference or "learning" something about the nature of fictionality—that they were intuiting, for example, Coleridge's famous "suspension of disbelief." In fact, from the 1730s, many novelists *admitted* that their novels were invented, but they were simply outnumbered by those who continued to emphasize the factual status of their works. From the 1710s to the 1770s, between 50 and 60 percent of French novels contained assertions of literal truth; only around the 1780s did truth assertions recede. This "plateau" makes typical arguments about a growing consciousness of fictionality appear unlikely. Instead, I proposed two alternate explanations.

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<sup>1</sup> The essential data and argument of this paper can be found in Nicholas Paige, "Examples, Samples, Signs: An Artifactual View of Fictionality in the French Novel, 1681-1830," *New Literary History* 48.3 (2017): 503–30.

First, assertions of truth or fictionality were not conceptual or epistemological in nature (i.e., the result of some people grasping something that others did not, or of mutating modes of knowledge production), but instead linked simply to values. Most producers continued to operate under the assumption that artworks had a more powerful emotional and moral effect when they were indexed to literal truth. Second, such values were imbricated in the forms available for writing novels—chiefly, the forms of the memoir novel and the epistolary novel, both of which were initially invented precisely because of the charge of literal truth they carried. Both forms could be and were used without truth pretense; but only with the invention of a competing form did truth pretense truly recede. I hypothesized that this competitor form was a specific kind of third-person novel displaying traits that earlier forms did not possess: greater length, segmentation into chapters, and particular varieties of omniscience.

Hence, this paper ultimately offered a technological explanation for the observed features of the novel's evolution. Literary forms—forms such as the “fictional novel”—do not arise out of a quasi-magical sympathy with the conceptual apparatus of a period. Rather, they are artifacts that reflect the values of those who produce and consume them, and like all artifacts, they must be invented, with invention being understood as an incremental process. And they are also artifacts that transform values, in that new forms bring with them new uses. Finally, such a technological view entails abandoning the idea of “periods” characterized by stable practices corresponding to a given world-view and separated from other periods by moments of rupture or transitional zones. In fact, forms are in constant evolution, an evolution that is not imputable to conceptual paradigm shifts but rather to the ceaseless interplay between artifacts and values.

## Discussion

**Hall Bjørnstad:** Many thanks for a rich, thought-provoking talk. I had the advantage to look at this a bit ahead of time and have a few questions now, while others gather their thoughts after your presentation. So, I will ask my question; hopefully we'll get hands; and then when I'm done asking, you can start then.

So, I have three different questions. First, to your very end, this last slide... We spoke earlier about to what extent the century-centric model of literary studies distorts the picture. And your zooming out in the last slide brilliantly illustrates that point. So, you coming from a dual century background...

**Paige:** Mmhmm, mmhmm.

**Bjørnstad:** ... How does that change... Does that make you able to see other patterns? What does the century model do to us? That's a first question. A second and much larger issue is... The visitors here will not know that in February we engaged (the whole campus engaged) with Franco Moretti because he was here for two endowed lectures and had several events building off them: he attended the Center's reading group and there were many other events. And to me the most interesting part was his first lecture, which was called "Pattern Recognition and Hermeneutics." Maybe I'm the only one to have this takeaway from his visit. But to me, it seemed like for his enterprise the separation of the two elements was crucial: First you have pattern recognition (which is neutral, objective, scientific) and *then* you have hermeneutics. And at several points in that discussion, there was some suspicion, some undermining of that premise taking place. [So, similarly] I think if we look at what you just did, it looks like the pattern recognition is neutral. But in seeing you pointing and gesturing, there is some skill going into identifying the most interesting moments. You will say "this is what comes in, after factoring out..." so there's something...

**Paige:** [inaudible]

**Bjørnstad:** So, there's something happening already at the level of pattern recognition. That was the one thing I found most fascinating in the discussion with Moretti. The other one was in the hermeneutics: do you need to be Franco Moretti to make it so brilliant? Do you need to be Nick Paige to make this happen? Or is it the method alone that makes it happen? That's my main question. Then I have a final question. It seems to me that with dividing into decades, there is the underlying assumption that the development you are tracking happens with uniform speed. But of course, all study of the eighteenth century has as a premise (especially in the French context) that there are a few years around the 1790s when more happens. [laughter] So, I wonder, if for all these graphs, you had also made a graph for 1791-1792, 1792-1793... I think that question goes back to the pattern recognition versus hermeneutics...

**Paige:** Oh yeah, yeah...

**Bjørnstad:** Okay, so, while Nick answers, I will take hands.



**Paige:** So... Okay, great questions, thank you. Does one need to be Nick Paige to do this? It's easy to be Nick Paige. This is very low-hanging fruit. To my knowledge... I mean, I don't know how interesting it was to see things like the average length of novels; I think it's a little more interesting when you move into the seventeenth century actually... But we have no statistics except for mine. And I could be wrong; there could be articles out there that I've missed. But, as far as I know, we have no statistics on the length of novels, right? So just kind of coming up with that stuff itself, there's something very... I'm surprised to the extent that before we knew nothing and now there's something there [laughter] and I don't know if it's surprising... We can kind of see what it correlates with, and so on and so forth.

Recognizing patterns? It's not so visible here. It's visible a bit with the statistics on first person [narrator] versus third person [narrator]. Basically, the book is going to start out here, but then it goes into basically trying to kind of isolate formal literary artifacts. So, first-person versus third-person helps, but it might be helpful to know, for example, in third-person novels: do they contain inset narratives? What type of inset narratives do they contain? That's important. Epistolary novels? Okay, but all epistolary novels are not the same. How many people are exchanging letters, right? That's one not-obvious thing, right. What's the subject—generally speaking—what's the subject of those epistolary novels? And one of the... patterns I recognize are basically rises and falls. That is to say, I think I know that I'm onto something with a lot of the stuff I'm doing, precisely because what I'm finding is so damn regular. And what I'm finding is rise and fall, rise and fall, peaks-falls. No "rise, plateau, fall." No, things get popular and then they lose their popularity. So that's a pretty obvious pattern. So that's my answer there.

Key years, that's very interesting. So, what makes for key years, generally, and in my—the French—corpus, there are a few moments that are key, I think. And they are moments when the production [of novels], for one reason or another, crashes. The production crashed during the French Revolution. The production crashed during the anti-monarchical revolt called the Fronde against the young Louis XIV in France. And the production in the early part of the eighteenth century is extremely low; notably the 1710s, 1720s, very low production of novels. And it seems as a rule—but that's a small sample, that's only three periods, that's only three crashes—but it would seem to me that generally after production crashes, the forms that are then adopted afterwards... It frees something up; it frees something up for people to write different types of novels. So, it seems to me that a production crash that has some sort of extra-literary source has the effect of then kind of scrambling the deck and allowing people to give up old ways of doing things.

As for my dual-century background, I don't know, part of it just comes from the fact that since I do *French* novels... If you work on the French novel, there's no temptation to say that the novel is somehow a creature of the eighteenth century; this obviously can't be true. We can go into, you know... I'm happy to discuss the difference between novel and romance? [silence] [laughter] I'm happy to discuss it. I mean, yeah, but I'll leave a lot of time for questions...

**Bjørnstad:** So, I don't remember exactly who were graduate students [and therefore entitled to jump the queue], but... I have Simon on the top of the list. Okay, Simon, go ahead.

**Simon DeDeo:** Oh okay. So I'm just thrilled to hear you say this, and I almost want to make sure I heard you correctly because I sometimes have trouble parsing things. But what you seem to be suggesting is that values are shifting potentially continuously: there's this cultural artifact, or this technology of the paratext, and it's not actually keeping up. And then at some point in time, there's this discovery, "Oh, we can do it differently!" right? And so, this plateau then crashes in

the 1780s. So, you're pulling apart the values of the readers and the culture as a whole, which might be shifting. But essentially this technology that is just... You know it's like the fax machine: we can't get out of it, and then at some point in time finally we throw away our fax machine.

**Paige:** It's the QWERTY keyboard.

**DeDeo:** Yeah, no, exactly.

**Paige:** Yeah, I mean, yes... I mean, I haven't attempted to measure values. If I was to attempt to measure values, I think I would just do stupid kind of word histories (which I think is perfectly good). We need more discursive histories of how people talk. For me, sentimentality, in part, it's just a change, a change of fashion (if you like) in the way people talk. So, this is the reason why we have an intellectual fashion for saying, you know: "What does X tell us about Y," right? You know, I think that there's a lot to study about what we generally study as ideas or ideologies but were actually an artifactual history of the way people talk. We say, "The way people thinking is changing"... I don't know how people "think"! But what we can measure is what people are *saying*, right?

**DeDeo:** Right.

**Paige:** The other thing, I mean... Yeah, there is this kind of idea here that new inventions free people up to think about things in different ways. Yes. And that there is no perfect way of measuring the interface between these values and the things people invent. Often these things are not coterminous. I mean, I could, you know, put up graphs of the epistolary novel and show you that the epistolary novel, in a way, is invented quite early. But no one picks up on it; it doesn't correspond to anything they want to do. And at a certain point (notably with sentimentality) all of a sudden, the epistolary novel takes off. Without sentimentality, there is essentially no epistolary novel; or there's only one kind of epistolary novel, which is the kind of novel of observation we are familiar with from the *Persian Letters*, for example. But that is an artifact that clusters, it clusters historically. And then there's all this other epistolary stuff, which is the sentimental epistolary novel. And that's kind of... If you take away the sentimental epistolary novel, there's like no epistolary novel. So, that interplay, I don't pretend to tease out those strands. But essentially, I don't think we should talk about the evolution of the novel any differently than we talk about the evolution of the bicycle. Yeah.

**DeDeo:** Great, thank you.

**Bjørnstad:** So, Jesse was on top of the list, and Bobby jumped the line...

**Robert Wells:** Jesse can go, though, since he's immediately...

**Jesse Molesworth:** I have a big question...

**Wells:** Okay, okay... I apologize in advance if you addressed this and I didn't hear it while I was trying to formulate this question... [laughter] So, if I'm repeating something here... So, Dror

Wahrman, the gentleman who's kind of responsible for starting this Center in a lot of ways, wrote a book about a decade ago...

**Paige:** Mmhmm.

**Wells:** ... Which a lot of us are familiar with, in which he also points to the beginning of the Age of Revolutions (or at least the period immediately after the American Revolution) as a period in which suddenly playing with identity, playing with truth—pseudofactuality, maybe, I don't know—is more dangerous immediately after the American Revolution. Which kind of seems to in some ways to map on (maybe, in some ways) to what you're saying: at least if it's not that they're directly related, at least as a parallel development. I was just wondering if you wanted to say anything about that.

**Paige:** Yeah, I do want to say something about that: not because of the American Revolution, but because of pattern recognition. So, one of the things I'm trying not to do here (to use one of Jonathan [Elmer]'s terms from the previous discussion) is identify “drivers.” I have a very descriptive account; there's some account of ... I think there's ways in which we should be talking about mechanisms involved. But a *cause* for the decline of pseudofactuality? Aside from saying that it's because peoples' values change, I don't want say anything else than that. And I understand that that is a hermeneutically poor assertion; I vindicate that poverty. I don't want to tell you...

**Wells:** You've told us lots of other things! It's okay, it's fine. [laughter]

**Paige:** ... what else it matches up with. I mention pattern recognition because, basically, whatever the blip you see and graph, you're always going to be able to look for proximate events and you're gonna say, “Must be that!”...

**Wells:** Right.

**Paige:** ...because humans are really good at recognizing patterns, or *misrecognizing* patterns. But that's the whole correlation-causation problem. So, I don't want to go there. I mean, one of the things when you do this kind of work... You do all this tagging, and you see these kind of trends and these rises and falls, and all of a sudden, there's kind of like... Things are constantly rising and falling, and so there's no sense in kind of trying to motivate each rise and fall. What we do just constantly changes. It's like the hem line—where's Tim [Campbell]? [laughter]—things just go up and down. I mean, I think there's a lot of that. I think we *way* underestimate the importance of novelty for creatives. Why? Because it's meaningless, it has no meaning. It has no meaning. And we are very uncomfortable with that. We want to find deep meaning.

**Bjørnstad:** Hook?

**Nick Valvo:** Can I just put a little bit of pressure on—in a kind of slightly obnoxious way, apologies in advance... How do the values you're describing escape from that critique? Like, how is the value of sentimentality different from the American Revolution in narrative-causal terms? I mean, I can imagine ways it might be, but how do you think?

**Paige:** [long pause] I'm not saying that sentimentality is a cause of the epistolary novel. I'm simply saying that epistolary novels and sentimentality—that epistolary novels that aren't sentimental are very rare. And if you take away sentimentality, there would be no appreciable rise in the epistolary novel. That's all I'm saying.

**Valvo:** So, is the value like a *niche* that allows the epistolary novel that formed to flourish?

**Paige:** Yeah...? [laughter] I mean...

**Valvo:** To use your evolution metaphor...

**Paige:** Yeah... But I don't want to get biological about my evolution; it's technological. It's technological.

**Bjornstad:** Jesse.

**Jesse Molesworth:** First of all, let me say thank you. This really confirms my sense that Gallagher's postulation of a sort of abrupt shift that takes place in the 1740s—it just doesn't exist; it's an evolution. But, I mean, this is a question I'm sure you get many times. Her story about the novel is specifically tied to the cultural context in Britain. And, you know, more specifically, I think of it as having three dimensions: first is the referentiality, which you talk about quite a bit; second is the rise of sympathy and sentiment, which *might* exist in a similar form in France as well, so there's that; but the third part of it is the rise of a credit economy, which does not exist (at least in the same form) in France. That's crucial to her; she spends twenty-five pages...

**Paige:** I know.

**Molesworth:** ... talking about this as an important cultural construct.

**Paige:** But historicists do that. I mean... Yeah. So, I mean... There are other accounts of fictionality... Jonathan Lamb, for example, you know, has an account *The Things Things Say* (2011) where it has to do with a kind of contractual notion of personhood. John Bender whom I respect a lot—he actually gave me this tie, this is John Bender's tie [laughter] —John Bender, you know, he sees the rise of the novel as correlated with the scientific hypothesis.<sup>1</sup> Michael McKeon seems pretty—it's hard to pin Michael McKeon down—but his telos is Coleridge's suspended disbelief as this kind of way between, you know ... But I don't believe any of this. I think this is magical thinking; I think this is noting resemblance. And, listen, when you're talking about fictionality? Fictionality: it's such a motivatable device, right? It's so easy to say, "Isn't that kind of like fictionality?" So, myself, I have utmost skepticism of this way of doing things. Gallagher couldn't have written that had she been at all interested in the French novel, right? But, I mean, that's not her fault, it's just that... New Historicism especially drives people into that kind of thing: "What

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<sup>1</sup> Editor's Note: John Bender, "Enlightenment Fiction and the Scientific Hypothesis," *Representations* 61 (Winter 1998), 1-23.

do we know about X? What do we learn about Y? What do we learn about X when Y...?" [laughter] It's all about the micro detail; New Historicism is all about this kind of synecdotal relation between this small thing and this big thing, and so the work of the critic is... Prestige accrues to the critic in direct proportion to the thing, the little object you're using to produce a great narrative: the smaller that object is, the more prestige accrues to the critic, right? So, I think this thing about "credit" is... bogus.

I don't think it has to do with gender either. Of course, gender is the other portion of her thing, right? Now, it would be very interesting to do analysis in which I kind of figure out, "Okay, do men actually go in for pseudofactuality more or less than women?" That would be interesting. I don't break out things by gender or by class of writers in the period, or... There's a whole problem of anonymous writers in the period, which is enormous. For me, these are all kind of anonymous producers and they all count the same way. I'd like to do an analysis more sociologically finer-grained, but I can't do that. Anyway...

**Rebecca Spang:** Just to correct the *factual* record: there *was* a credit economy in France in the eighteenth century. [laughter] I have reviewed a book called *Revolution and Commerce* and another one called *Commerce of Revolution*.

**Whitney Sperrazza:** So, I want to pick up on your critique of New Historicism and also relate it to Nick's question about value.

**Paige:** Uh-huh.

**Spang:** Simon's question? Oh. No.

**Valvo:** It was my question.

**Spang:** Oh, because you both did.

**Nick:** I guess we both had questions about value. [laughter]

**DeDeo:** Black hair or brunette? [laughter]

**Sperrazza:** It doesn't matter. Anyway, I wonder if your critique of New Historicism might not also be applied to your use of paratext to distinguish pseudofictionality. I really enjoyed the talk... And I'll explain that a little more.

**Paige:** Uh-huh, please.

**Sperrazza:** I really enjoyed the talk and I'm with you: I'm against period; I'm against, you know, canon as the only way of thinking about the progression of literary history. And I also want to push back against this disciplinary division and yet I want to ask you to separate your literary-historical from your book-historical claims. Because these sort of anonymous producers that you mention: if you're using the paratextual apparatus to distinguish what you're calling "pseudofictionality," then you really are kind of losing the author and focusing on the book as a product. And these paratexts are often written by editors or by publishers. And so that kind of

clicked for me in some of the confusion in graph 9, because when you're thinking about narration styles as opposed to whether there's a paratext, then you're really looking at a thing the author is doing and whether or not it lines up with the way the book is being produced, packaged, or marketed. And then you keep talking about novels as having or being technologies, artifacts, objects (akin to the bicycle). So, I'm wondering if you are intervening in discussions about the rise of fictionality or whether you're looking at market trends across the seventeenth and eighteenth centuries in terms of a really book-historical claim? And this is a kind of... You've abstracted data from a lot of novels... And I come from a New Historicist training, but I think I'm rematerializing what you're doing a little bit and I want to ask you about that distinction.

**Paige:** Okay, I'm not sure I totally understand the question... So: book-historical, I'm dealing with various types of paratexts...

**Sperrazza:** Let me sort of make it in a nutshell. Let me see if I can...

**Paige:** Yeah, I'm sorry, I'm...

**Sperrazza:** Yeah. So, when you say this novel is "declared as" true, or is "claimed as" true...

**Paige:** Okay, yeah.

**Sperrazza:** I know you want to push back against the idea of specific authors. But you don't mean by the author of the novel necessarily, if you're talking about paratext.

**Paige:** No, but...

**Sperrazza:** And in many cases you mean by the sort of market structures, by the publisher, by the trend in how...

**Paige:** Well no, they're not declared as true by trends or market structures; they're declared as true by whomever is writing these paratexts. And yes, they're not... Logically we can't consider them "authors" if they are advertising their book as a *document* they have found in an armoire somewhere, right. So then they can't be the "author," right?

**Sperrazza:** Right, but that's not what I mean exactly.

**Paige:** Okay, I'm sorry.

**Sperrazza:** So, I guess maybe this really leads to a more specific question. When you're tagging things as pseudofictional...

**Paige:** Factual. Pseudofactual.

**Sperrazza:** Pseudofactual, sorry.

**Paige:** That's the truth claim.

**Sperrazza:** Yeah. It sounded to me like you were not looking at frame narrative (which came up somewhere else) but you're really looking at cover page, introduction...

**Paige:** Oh yes, right.

**Sperrazza:** ... So those are things that are *not* being written by the "authors" of the novels in many cases.

**Paige:** Yeah, they may or may not be, right. Right, right, right. It is about, if you like, an entire literary culture, right, that includes publishers and authors and pseudoeditors and real editors and so on and so forth—so that's absolutely right. I don't measure gestures toward truth within the novel for a couple of reasons. First of all, they would be very difficult to ferret out and, as you can imagine, it's like 900 books and I'm not reading them all. I try and find enough information... I read as much as I need to be able to categorize them in the way that I want to categorize them. And the other reason is that we all know that by the time we get to the nineteenth century (at least), very often authors will kind of say in the body of their texts, "This is a true story," right; so, Balzac might say that. So, I'm not quite sure what to do with that type of embedded truth claim. There is a real problem here about "what is a paratext?" okay? It's all fine and dandy if something is labeled "introduction," right; if it is labeled "preface," that's fine. But, on the other hand, especially in the eighteenth century, for example, there is a kind of authorial voice that often emanates from say the first paragraph of the book and then you feel like you're moving into the narrative proper, right. So, what do we do with that? Is that going to be a paratext or is it not a paratext? All that stuff is actually individually coded and tagged—tagged, rather. So, I can actually pull that apart, and those are interesting questions. By the time you get to the end of the eighteenth century, you get a lot of interesting what I call "embedded truth affirmations" so that the paratext makes it absolutely clear that we are reading is a novel that is the creation of an author. And yet *inside of that* there will be ... protestations of truth. So, you can imagine an epistolary novel: "I've written this epistolary novel to show that virtue always triumphs over vice." And then preceding the first letter is this thing that's going to say, "Avertissement de l'editeur" ("Editor's Preface") that is pretending that these letters were actually found somewhere. So, you get these clear kind of mixed signals, but that's not an equivocal for me, that's an embedded... Anyway, this is just to say that when you climb into the archive, there's a lot of weird stuff there. But you can keep track of it; you can keep track of it. Yes. You have to be confident that what you're keeping track of, some other researcher would also be able to tag and recognize in the same way you are. This would have no sense if what I'm doing was purely an idiosyncratic exercise, which would happen if we tried to say how *believable* these pretenses were and things like that.

But that question of what is a paratext is super important and it would be interesting to put up graphs, for example, of number of novels actually preceded by prefaces, right? And at a certain point there are novelistic subtitles that come in: so, you get "A Historical Novel," for example. In the English domain... English books have a much richer story of novelistic subtitles. French novels don't start to say, for example, "roman" as a subtitle until well into the nineteenth century, whereas in English they start much, much earlier. So, that's kind of interesting. So, there are patterns there one can dissect as well. It's not unrelated to book history.

**Bjørnstad:** So, that was an interesting question, but I'm not sure it qualified as a hook. [laughter]

**Sperrazza:** [laughing] That's my two strikes. [laughter]

**Bjørnstad:** We have four minutes left and ten people on the list. Rebecca, you're at number nine! So should we go five minutes over or should we stop ...?

**Spang:** We'll see how the questions go. I probably don't have to ask mine.

**Bjørnstad:** Okay, so those on the list should contemplate whether they really want to ask theirs. But first is Tracey.

**Tracey Hutchings-Goetz:** So, I have a much smaller-scale question concerning temporal setting and protagonist types [your graphs 4 through 7]. And I was curious, particularly with graph 5, if what the graph shows isn't that pseudofactual nobody novels kind of tend to hew with historicity? So, is this graph kind of also showing... Okay, so you see pseudofactual nobody novels, right, declining as contemporary nobody novels increase.

**Paige:** Right.

**Hutchings-Goetz:** So, is part of what's being shown here is that there seems to be an attraction between the pseudofactual nobody novel and *claims* of historicity. So... is it more often that somebody's like, "Oh, this is real because I found it in this trunk," right? Yeah.

**Paige:** No. No, no, no; not at all. Okay. It depends on what you mean by "historicity," because somebody might take that as being like a reality claim: "It is historical," right? Whereas I'm using here contemporary settings, unspecified settings, and historical settings merely as temporal categories in terms of when the narrative is taking place.

**Hutchings-Goetz:** Okay good. Yeah.

**Paige:** There are a small number of pseudofactual novels that are reported to be documents from some other time or place: *Castle of Otranto*, for example. That's not a large percentage of the novels. Generally, when people "find" documents, they're contemporary documents.

**Hutchings-Goetz:** Okay.

**Ryan Sheldon:** Okay, great... So, I don't want to return us too much to the book history-literary history question. But you've spoken of the evolution of novels along with the evolution of bicycles, and if I go to my garage and pick up my bicycle of twenty years, it still works; if I pick up a novel from 1710, it still works now. [laughter]

**Paige:** Well then you haven't read those novels. [laughter]

**Richard Nash:** It's slower going. [laughter]



**Sheldon:** They still function. Which is to say, books are objects in the world that stick around, that are printed and reprinted, and your dataset is date of first publication. So that complicates, I think, the evolutionary model some. Because if we have something that is reprinted, goes through five reprintings over a ten-year span... The market might have moved on and yet—or, rather, a subset, some part of the market has moved on—and yet it remains. So, there’s something there about the discrete materiality of these objects, that... Can that be built into the model? I guess is my question.

**Paige:** Well...

**Nash:** This question makes my question a hook, by the way.

**Paige:** Do you want to hook now?

**Nash:** [to Valvo] I noticed you were doing that [i.e., making the “hook” sign] too, Nick?

**Paige:** It’s a great question...

**Valvo:** I just was going to say that I’m working on a novel right now, Defoe’s *Roxana, or the Fortunate Mistress*, that has multiple editions that would be in different baskets according to your categories...

**Paige:** Ah, ah, yes... That’s a different question.

**Spang:** But it’s never in French. [laughter]

**Valvo:** That’s true, although she’s French. [laughter]

**Paige:** That’s a related question but a different one.

**Spang:** And Richard’s hook?

**Paige:** Did you want to...?

**Nash:** Just to catch on to this... Because I was going to ask, what is the status of “evolution” to your claims Especially I’m thinking your last slide: when you scoot back out, you’re not talking about evolution at all, you’re talking about fluctuation. I just wanted to... How important is the meaning of evolution to you?

**Paige:** It’s really important. Because these graphs of truth posture... It’s a different question. That’s a different question. [laughter]

**Sheldon:** I think we’re both kind of contesting the term “evolution.”

**Paige:** So, there are all sorts of ways in which you could kind of envision what is the “production” of novels, right? For me it is the production of new titles, alright. It would be nice to

weight, obviously, for, say, print runs: although we have no data on that, that would be impossible. You could weight it for re-publications: that is somewhat more possible, but it really depends on how good our bibliographies are. In France, we are blessed with much better bibliographies than you guys have (and by “you guys” I assume most of you are English people). That is to say, you have James Raven who goes back to 1750, and then you get two more decades in earlier Raven, and then there’s one more book that will take you back another decade, and then that’s it as far as I know for bibliographies. In France we’re much better... but still, getting accurate counts of reprints is not super easy. Then you’d have to figure out how much you want to weight those reprints, when do you want to count them—do you want to count them in the year they’re reprinted? so on and so forth. I’m not purporting to offer a snapshot of everything that’s being read in those given decades, right. The idea here... That’s why the kind of technological model seems to work for me. So, if you ask “what are people driving today?” well you look out there and you see cars from a lot of different periods: some of them have touchscreens, and others don’t; some of them have back-up cameras, and others don’t. So, that would give you a completely different idea from kind of talking about automobile design from 1950 to 2010, right, where you would probably go through actually different models. And it may be super important to say, “Whoa, the Mustang’s a really important car,” right? And maybe then you can see that the Mustang is introduced and then, all of a sudden, there are these stylistic features of the Mustang that are reproduced and spread to other creations, even creations that aren’t successful on the market. So, that would be a different way... So, *that’s* kind of the way I’m thinking about it. And so, part of that is practical: I think it would be very difficult to really accurately count re-additions, I think that would just be very difficult.

For the question of paratext change—so, *Castle of Otranto*, why not—that’s true. I do my utmost to rate the original paratext and not a second paratext. Because the point isn’t that the novel is or isn’t invented, right; the point is whether it’s pretended to be true or not. I’m sure there would be interesting calculations to make about the number of novels where, in subsequent additions, that pretense of truth is dropped; that would be interesting enough. But the fact that Walpole drops his truth pretense from one edition to another in the span of two years or whatever, I can’t recall... The fact that he drops it *is not a sign* that people are tiring of truth pretense. [laughter] And that’s what everyone says. That’s what people say, it’s like, “Ah, all of a sudden, something just happened... Classic moment in *Otranto* when...” Or Gallagher’s thing where she, on one hand, she gives us... She gives us *Robinson Crusoe* and then she gives us *Joseph Andrews* and says: “It must’ve happened between those two things”... The fact is that people kind of continually reemployed this device; it goes beyond generations. One could also isolate individual authors and show how in some cases they may pretend their novels are true, and in other cases they may admit they aren’t, and then sometimes they may go back from an admission to a pretense of truth.

**unidentified:** Just a tiny addition to the sales figures and new editions question. The proportion of production that you’re mapping...

**Paige:** Yeah.

**unidentified:** ... isn’t really paying attention to “total number of novels produced” that matters so much to Moretti.

**Paige:** It is.

**unidentified:** and that the order of magnitude... . Oh, it is? Did I miss... ?

**Paige:** Of course, these are all percentages.

**unidentified:** But you're reducing to percentage that takes away from the absolute total of titles produced. ...

**Paige:** Correct.

**unidentified:** So, there's a question of scale that might be interesting. Where for Moretti, for instance, there's a quality of change when you get to the 1780s and all that where there's a much greater quantity of production happening. What's interesting to me is that you don't seem to care about that and that it doesn't seem matter for your numbers.

**Paige:** Well... No, that's interesting. It has a little to do... I mention these moments of production crashes, for example.

**unidentified:** Right.

**Paige:** Reflected in these... And then you go through and try and figure out, "Okay, when are the real accelerations?" And it's true that the accelerations in production, they kind of plateau at certain moments, and then go down and then they go up again. I mean, there's no kind of one moment when the novel takes off, at least there's not in France. I mean, it's partially because production of new titles is super healthy in France in the second half of the seventeenth century. And then there's this trough, and then it kind of works its way back, and the 1730s is kind of a big moment. So, I think there are ways in which it does make kind of sense to say that production figures and these individual artifacts are not unrelated. That is to say... One could think of the market as being kind of a finite thing and then people kind of say... The market is finite and then you're measuring, say, the percentage of first-person to third-person works. But you might also be interested in showing, "Well, actually, once this document novel is kind of recognized as this very useful form, actually a lot more people start writing novels because it makes the novel more interesting." And I think that is absolutely true. I think that there is a way in which the pie is not limited, but certain great inventions, you know—and they're not "great" absolutely, they're great with respect to what people want to do—but it makes them want to write more novels. So, I think that actually does correspond very well to an expansion of the production in, say, the 1730s. So, what I'm saying is that the expansion of "document novels" here—roughly that black line on the graph of first-person vs. third-person—that that expansion there corresponds also to an expansion in production and that's probably not an accident. And then you get a similar thing with the third-person novel at the end of the century. So, I think that is correct, yeah, to say.

**Bjørnstad:** So, we are out of time. I have six questions. I propose...

**Paige:** Oh my, I'm sorry.

**Bjørnstad:** ... For those who burn for their question, we go around and collect the six questions, and then you can respond to whatever you feel inspired to.

**Paige:** Okay, I'll try to answer more quickly.

**Bjørnstad:** I'll just mention the names I have. You first, then Jonathan, Mary, Michael, Rebecca, Brad.

**Justin Roberts:** Just a couple of quick questions, and this relates somewhat to what we've discussed... You know, this is not my field, and I'm trying to grasp what you're doing with the quantification. You have a lot of figures—I'm an economic historian of slavery so that really caught my eye. I guess what keeps striking me is the idea of drawing societal and cultural values from this data because I'm so uncomfortable about the fact that the data is just production data and not consumption data. I keep wondering about how many of these individual novels are being produced and whether some of them are more important than others. And if some of them are more important than others, maybe, on some level, that's where we need to move back to this qualitative history, and say, "These are the most important books, this subset; these are the ones we need pay attention to." So, that's one of my concerns. And then the other is that this is a French data set. I guess I was puzzled during your presentation because you keep using these English examples: *Clarissa* and Sir Walter Scott. I sort of wonder what larger claims can you even make about the evolution of the novel from a peculiarly French data set? So, you engage with one scholar towards the end... Cohen, I think, was the scholar's name? Sorry...

**Paige:** Dorrit Cohn? Dorrit Cohn.

**Roberts:** And you're critiquing that notion, but I'm wondering if you can do that from this one subset of French data, and I'm wondering if the same sort of data is being produced in for the British context.

**Bjørnstad:** Okay, so, probably I think Nick could here the whole evening responding to this question. [laughter] But Jonathan....

**Jonathan Elmer:** Yeah, it's a very large sort of question coming out of left field... I can't tell... Given the thoroughness—and by the way I'm entirely sympathetic to the thoroughness—to which you debunk the historical narratives, it's interesting to me that you're doing a certain kind of change-over-time analysis yourself. If none of the accounts of *why* these changes happen are meaningful to you, why not take this question of fictionality and do a different kind of analysis altogether? You could do an ideal-typical one; you could do a structuralist account; a concept... You could say, "Oh, here's an interesting new mutation of fictionality that happened. I don't really care *why* it arose, I'm not going to come to a very good reason to explain why it arose, but it's a mutation. And I'll do a concept scattersheet, or something like that, and just do that kind of analysis." That seems to me to be as interesting a thing to do with the data that you're getting than to try to go to these long narratives and graphs and then you turn to say: "Actually, they don't really mean anything."

**Paige:** So that's not really a question.

**Elmer:** I guess it is a question of: “Why do that?”

**Mary Favret:** I’m sorry, I’ll try to say this quickly. Reading over these graphs, you make me wonder what the competitors were for the novel. In other words, if there’s a demand for truth or pseudofacts: is the novel the go-to place, or are there other things that are in competition? So, I kind of think that there’s a large—even if we just think about reading, let’s just limit it to reading—what other texts are in competition and how might they impinge on the consumption, production, etc. novels?

**Michael Gavin:** Yeah, just really quickly... Thanks for the great talk. My question would’ve expressed a little skepticism about the stats and about the graphs. And, in particular, following up on one of the earlier questions about the use of percentages: it seems like 900 books over 150 years, that’s like 6 books a year. And some of the changes you’re looking at, you’re breaking them down even further into categories, and you’re saying, “Well, this went from 10% one year to 20% another year.” That’s really often only the change of a couple books. So, have we really moved beyond the exemplary example if we’re identifying patterns that can be accounted for by only three or four books?

**Spang:** Mary asked my question.

**Bjørnstad:** Excellent. Brad?

**Brad Pasanek:** I think I want to co-sign what Michael was saying, but the question was actually... It’s something like this: so, I love this project; I’m super sympathetic; I’m wondering if there’s a more extreme version of it. So, like, “There are no periods, only rising and falling.” And it could be that some of the rising and falling, because the percentages are going to make things rise and fall and if you take them all together they’re going to rise and fall faster. But like what if there are no features, right? I think I’ve heard you say this—maybe not today but maybe at a different version of this talk—where *this* pseudofactuality is not the same as *that* pseudofactuality, right?

**Paige:** Yeah.

**Pasanek:** Yeah... So, like, this is true nominalism. There are no graphs. “This graph is not a graph”; the last one is, I don’t know.... But at some point—I know we have to go to dinner [laughter]—like how much more nominalist can you get before you lose track of formalism? And I’m interested in like the minimum of formalism these days. So, maybe this is just my hobby-horse, but I’m wondering if you get rid of the period... Yeah, I don’t know, when do you say we’re no longer doing this kind of pseudofactuality...? Does that make sense?

[inaudible chatter]

**Paige:** Ok, Michael’s question about n-values... If I had a subset of four novels, I would not put it up there. That is to say that... So, for one of these graphs, for example, I said, “Don’t pay much attention to this because there are very few third-person novels in that bar.” And so I’ll point out stuff like that. But so generally speaking .... It’s true, okay, that you did the division

and it's six novels a year, but it's 60 novels per decade. And it's true that for some of these subsets, that's also... I said, for example, you know, "Don't get too hung up on the fact that looks a little messy; there aren't so many nobody novels from there." But generally, if I don't consider my n-values robust, I'm not going to try to draw any conclusions from them. If you do a kind of.... You might want to wonder about like the margin of error for these calculations? It would depend on which subset I'm talking about. If you go back to the original graph here, you're dealing with essentially a plus-or-minus ten percent. It's not nothing...

**Gavin:** But if you go back...

**Paige:** Yeah...

**Gavin:** But if you go back to the one you were showing...

**Spang:** Speaking of measurement, we do need to be attentive to time.

**Gavin:** Yeah, it's ok. I get it.

**Spang:** They need to come pick up the harpsichord, among other things. [laughter]

**Paige:** Mary, what are the novel's competitors? So, I don't know, I wouldn't imagine that lyric poetry would be a very good place to look for things like truth claims, but...

**Favret:** Epic poetry, though.

**Paige:** Epic, ah, so epic is interesting... And of course tragedy is super interesting because...

**Favret:** Drama. Or natural history...

**Spang:** Natural history; legal factums, which are not censored.

**Paige:** Well see...

**Favret:** Right.

**Paige:** Well see, I'm not interested in... Hold on, I mean... Legal factums... I'm not interested in what truth is and what fictionality is, right. So, what I'm trying to do is say, "Let's approach this question of factuality by seeing it as a problem of the protagonist, of the protagonist's either existence outside of the text or nonexistence outside of the text." And so, for the question of tragedy, it's very interesting. I don't really know what happens on the English stage in the eighteenth century, but what happens on the French stage (for example) is for the first time you start having tragedies with invented characters, okay. So, from that point of view, you could do this type of analysis with the subject matter of plays as well, plays which, you know, sometimes are and sometimes aren't considered part of the domain of fiction, right: I mean, that's always a kind of narratological problem, and so on and so forth. But that's interesting... I think it's really a question of who your heroes are, right, or who your protagonists are: are your protagonists he-

roles? That is to say, people you've heard of, important people: the reason I'm picking up this book is because it's about a hero. Heroes are important, right, and what they've done is important. Between that and picking up a book about someone you've never heard of, right? So, I think that move from somebodies to nobodies is really important. I think you can trace that in the theater as well; comedy is always the domain of nobodies.

**Henry Fielding,  
1707 - 1754**

Born in Somerset, England, Fielding was educated at Eton and then studied law at Leiden. His plays, novels, and essays established him as a leading satirist of the eighteenth century. Despite his many political lampoons, Fielding went on to become a London magistrate in his later life.

As for *Tom Thumb* itself, the play is not without its famous fans: Hogarth designed the frontispiece for the print edition; Jonathan Swift supposedly LOL'd, and both Frances Burney and Jane Austen were said to have performed the piece during their regular family theatricals.



**About the Actors**

*Charles Bonds* is a Ph.D. Candidate in History and Jewish Studies.

*Bobby Wells* is a Ph.D. Candidate in History and C18 Studies.

*Mary Christian* has a Ph.D. in English (IU) and Theatre Studies.

*Rachel Seiler-Smith* is a Ph.D. Candidate in English and Gender Studies.

*Richard Nash* is a Professor of English.

*Jesse Molesworth* is an Associate Professor of English.

*Rebecca Spang* is a Professor of History and Director for the Center.

*Tracey Hutchings-Goetz* is a Ph.D. Candidate in English and C18 Studies.

*Mallory Cohn* is a Ph.D. Candidate in English and Victorian Studies.

*Kate Blake* has a Ph.D. in English (IU) and Gender Studies.

**Thanks**

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# TOM THUMB, A TRAGEDY



Annual Workshop  
Bloomington, Indiana 2017



# DIRECTOR'S NOTE

## Tom Thumb, a Tragedy

### DRAMATIS PERSONAE

#### MEN.

KING, (Mr. *Bonds*.)  
TOM THUMB, (Mr. *Wells*.)  
GRIZZLE, (Dr. *Christian*.)  
NOODLE, (Mrs. *Seiler-Smith*.)  
DOODLE, (An *Infamous Puppet*).  
1 PHYSICIAN, (Dr. *Nash*).  
2 PHYSICIAN, (Dr. *Molesworth*).

#### WOMEN.

QUEEN DOLLALOLLA, (Dr. *Spang*).  
PRINCESS HUNCAMUNCA, (Miss. *Hutchings-Goetz*).  
MUSTACHA, (Miss. *Cohn*)  
  
PROPSMASTER, (Dr. *Blake*)

Our collective decision to perform this play started as a bit of a joke. “What play deals with scale?” asked Rebecca Spang at the Workshop planning meeting. I offered the first thing that came to mind: “Tom Thumb?” Everyone laughed. I think I even snorted. Rebecca didn’t: “That’s perfect!” she cried. And, true to form, she was right.

If we want to talk about numbers, measures, scales, Fielding’s farce supplies endless fodder. The play itself was an “addition” to the Author’s Farce; its revisions include critical commentary by a faux scholar, “Scriblerus Secundus”; and, as J. Paul Hunter rightfully points out, the little piece “depends primarily on one joke”: the size of Tom Thumb himself. But Tom Thumb’s size is really only funny due to scale, just as Secundus’s footnotes are comical because they take up more space than the play text. In many ways, these facets of the play (among others) make it a perfect fit with our workshop.

That said, we struggled with some of the decisions concerning the staging of the play itself. Central to our debate was this very problem of size, as the joke about Tom Thumb’s stature plays into ableist and sexist performance histories. The character was often performed by young women—hence Mustacha’s joke that Thumb is “nothing,” or lacking a proper length of “horn”—or represented by little persons, both of which were seen to play comically against Western notions of able-bodied, virulent, “serious” masculinity.

So, in the end, we decided to update the play’s joke about scale by drawing upon more contemporary conversations in literary criticism: namely, affect theory. If the other characters are larger-than-life, ridiculously expressive figures, why not cast Tom Thumb as utterly and unapologetically flat in affect? One-dimensional rather than multi-faceted? Such a staging opens up new and equally exciting questions for contemporary scholars regarding the weight of emotions: can we measure feeling? Does affect have a scale?

We hope these questions, as well as the numerous references to counting and weighing, add to our workshop’s discussions at “large.” We also humbly hope that, contrary to Hunter’s claim, our audience encounters more jokes than one throughout. After all, if Jonathan Swift was rumored to laugh aloud at Grizzle’s stabbing of Tom Thumb’s ghost, then surely we can count on others to follow suit.

Rachel Seiler-Smith | Director

## How Surprising is the French Revolution? Insights and Information Theory

REBECCA L. SPANG AND SIMON DEDEO

Eighteenth-century studies has long understood itself as interdisciplinary, but the disciplines involved have almost exclusively been Humanities. This paper, co-authored by a historian and a physicist-turned-cognitive scientist, both presents some initial results of our work on the French Revolution's equivalent of the *Congressional Record* and reflects on the challenges and satisfactions the collaboration presented.

Along with Alexander Barron and Jenny Huang in the Lab for Social Minds, we worked with the digitized corpus of the first 33 volumes of the *Archives parlementaires* (*AP*): an anthology of the major speeches and debates delivered in the French National Assembly from summer 1789 to September 1791 (when that body dissolved and was replaced by the Legislative Assembly). Each volume of the *AP* runs to 800 pages of very small type and for more than a hundred years the only navigational tools were nineteenth-century indexes. Now, however, the *AP* volumes published before 1911 are digitally searchable and can be manipulated using computational methods (not those edited since 1961, which remain under copyright).<sup>1</sup>

Much of this collaboration consisted of making our disciplinary assumptions—our prior beliefs about the proper goals and methods of academic research—intelligible to each other (and, thereby, conscious to ourselves). To begin with: What is “information theory” and why use it to study the French Revolution? We have, after all, already plenty of what is normally called “information” on the French Revolution and no shortage of theories about that information and what it might mean.<sup>2</sup> Indeed, even the most apparently fact-driven account of revolutionary events relies on some implicit theory about the past (a set of assumptions, a way of seeing), even if that theory is so widely shared as to no longer be recognized as such. A historian works with a theory of information just as much as with the information itself.

While a statistician often speaks in terms of probability, historians deal in plausibilities. Consider R.R. Palmer's now classic *Twelve Who Ruled* (first published in 1941, re-issued in 1973, 1989, and 2005). When Palmer wrote “As if the Hébertist uprising of September 5 were not enough to occupy the Committee [of Public Safety], it was on the same day that a depressing message came from Houchard, general in command of the Army of the North”<sup>3</sup> what he was in some sense really saying was: “I think it much more likely that the twelve men on this Committee got these two pieces of news on the same day, than that they did not.” When a historian praises or criticizes Palmer, his or her reac-

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<sup>1</sup> We worked with the version available from the [French Revolution Digital Archive](#), a collaborative project between Stanford University and the Bibliothèque Nationale de France.

<sup>2</sup> This is not the place for a full historiographical essay on the French Revolution; see Rebecca L. Spang, “Paradigms and Paranoia: How Modern is the French Revolution?” *American Historical Review* 108 (February 2003), 119-147 and “Self, Field, Myth: What We Will Have Been,” *H-France Salon* 1:1 (November 2009), 24-32.

<sup>3</sup> R. R. Palmer, *Twelve Who Ruled: The Year of Terror in the French Revolution* (Princeton: Princeton University Press, 2005), 78.

tion is not usually couched in terms of probabilities—we do not tend to say “there is only a 60% likelihood that at least eleven of twelve committee members learned about both these developments on 5 September 1793 and a 75% chance they were saddened by them.”

Nonetheless, any historian’s work depends on implicit attention to “what was probable” because, as a discipline, History is strongly committed to *uncertainty*. History is the domain of both the contingent (the past did not have to happen as it did) and the fragmentary (our sense of what indeed did happen is reconstructed from available evidence). When historians produce an account of why the past happened as it did, they concern themselves with what might more or less plausibly—and thus, more or less probably—fill those gaps and resolve those possibilities.

That history as a discipline is always already implicitly probabilistic is important because “information theory” is an explicitly probabilistic way of knowing. The probabilities with which it deals are not like those we encountered in the Center’s 2012 Workshop on Play, however.<sup>4</sup> That Workshop dealt with probability as we often consider it today, as something best understood in terms of gambling and games. Approached through a question such as “How many times will a coin come up heads?” probability is a measure of frequency and tells us about the behavior of objects.

But an epistemic, even moral, understanding of probability is both older and more relevant here. In the eighteenth century, most uncertainty resulted from not knowing the logic or properties of objects: hand-crafted dice, unlike the machine-made ones of a later era, did not all roll the same way and it was possible (even probable) that one die would regularly come up “two” more often than another.<sup>5</sup> And if we today assume (rightly or wrongly) that we live in a world of uniform objects, we nonetheless do not predicate that same uniformity of subjects.

We do not expect people to repeat their behaviors in a statistically reliable, predictable way and indeed, we consider a certain kind of unreliability—the possibility of gaps and changes of mind—as the very sign of subjecthood. (When people become so regular that they remind us of clocks, they become the stuff of legend, as with Immanuel Kant’s late afternoon walk through the streets of Königsberg).<sup>6</sup> Still, we do expect human behavior to be plausible and those expectations frame and limit our speculations on others’ actions (in past, present, and fiction alike).

Thinking in terms of plausibility gives us an intuitive, qualitative framework for measuring human probabilities; information theory aspires to make this thinking into a science. It brings to the fore a philosophical difference at the heart of probability itself. *Frequentist* probability theory focuses on the behavior of objects: it counts past outcomes and derives a set of regularities in the world that hold for the future as well. Information theory, in contrast, draws on an understanding of probability first formulated by the English non-conformist clergyman Thomas Bayes in the mid-eighteenth century and presented to the Royal Society by his Unitarian friend Richard Price (known to all *dix-*

<sup>4</sup> For paper summaries and transcripts of discussions—including the wonderful debate on the rationality of gambling—see [The Workshop 1 \(June 2013\)](#)

<sup>5</sup> Lorraine Daston, *Classical Probability in the Enlightenment* (Princeton: Princeton University Press, 1988).

<sup>6</sup> See Frédéric Gros, *A Philosophy of Walking*, trans. John Howe (Verso, 2015) and Manfred Kuehn, *Kant: A Biography* (Cambridge: Cambridge University Press, 2001).

*huitièmistes* for his 1789 sermon, “A Discourse on the Love of our Country,” the provocation for Edmund Burke’s *Reflections on the Revolution in France*).<sup>7</sup> The Bayesian approach used in information theory introduces a subject into the equation and makes probability into a dyadic relation. It asks: given what I knew (or thought I knew), how surprised am I by this or that new piece of information? Bayesian statistics (like much Enlightenment thought) understands this “I” not as a particular embodied subject but as an ideal, rational learner. We can hence program a computer to be this subject and to recognize surprises.

“Surprise” as we are using it here is not simply a byproduct of (or synonym for) variability, the way we might say we are surprised, for example, by the outcome of a dice roll. It is fundamentally relational, and does not have a constant: two poker players may, for example, have different levels of surprise about the same event. Consider the punter cheated by a card shark: the pair of aces is an (unfortunate) surprise for the former, and a foregone conclusion for the latter. We weigh probabilities against each other—and not against an independent, standard measure (such as a meter, pound, or gallon)—because surprise always depends on expectations and expectations (“prior beliefs”) are neither constant between individuals nor for any given individual at different points in time. As we learn about the world—or about a dataset or corpus—our expectations of it shift.

Information theory studies “stochastic” (that is to say, aleatory or apparently random) processes as a model for how communication works. Information theorists—or, rather, mathematicians, cosmologists, computer scientists, and others working in the area known as “information theory”—look at some dataset (about whose contents they know very little) and try to find a “signal” (i.e., evidence that the dataset does communicate *something* even though they may not understand what is being said).<sup>8</sup> Their goal is to identify how the data communicate, not explain what is being said or craft a response.

Games are a common metaphor for the interplay of expectations and data, but the origins of information theory were more martial than recreational. Two of the founding names in the field (Solomon Kullback and Richard Leibler) worked as United States Army cryptologists during World War Two (using methods in part devised by the Coast Guard to decode messages being sent by “rum runners” under Prohibition).<sup>9</sup> Kullback did not know a word of Japanese, but he and a colleague (Frank Rowlett) could still “break the code” used in Japanese diplomatic communications. For the translator who then read the decrypted message, those communications were not stochastic (except insofar as any sign system is just that) but coded Japanese had no meaning for Kullback and his fellow codebreakers.<sup>10</sup> Claude Shannon, often called the “father of the information age,” had a similar background in signal transmission and decoding, writing one paper on how to separate signals from noise and another (in telephonics) on how to distinguish a message from static. As a Digital Humanities method, Information Theory is a kind of distant

<sup>7</sup> In addition to Daston, *Classical Probability* see Stephen M. Stigler, “Richard Price, the First Bayesian,” *Statistical Science* 33:1 (2018), 117–125 and Sharon Bertsch McGraw, *The Theory that Would not Die* (New Haven: Yale University Press, 2011).

<sup>8</sup> For a basic textbook introduction see Thomas M. Cover and Joy A. Thomas, *Elements of Information Theory* (Wiley, 1991; 2006). See also, Brian Skyrms, *Signals: Evolution, Learning, and Information* (Oxford: Oxford University Press, 2010).

<sup>9</sup> [https://www.nsa.gov/public\\_info/\\_files/oral\\_history\\_interviews/nsa\\_oh\\_17\\_82\\_kullback.pdf](https://www.nsa.gov/public_info/_files/oral_history_interviews/nsa_oh_17_82_kullback.pdf), 7

<sup>10</sup> [https://www.nsa.gov/about/cryptologic\\_heritage/hall\\_of\\_honor/1999/kullback.shtml](https://www.nsa.gov/about/cryptologic_heritage/hall_of_honor/1999/kullback.shtml)

reading, but unlike many forms of text mining, it measures not the content but the structure of communication.

Information theory lets us calculate how much information there is in any utterance. The more unexpected an utterance, the more information the perceiving subject gets from it. (Imagine waiting for a coin to be tossed versus waiting for two dice to be rolled—you will always get more information from the latter outcome, because there are more ways it could have turned out.) There is more “information” (also wonderfully called “surprisal”) in a single unlikely occurrence than in multiple likely ones. In text mining, an “information rich” word is one that helps distinguish one author, text, or chapter from another, but its informative-ness should not be confused with its *meaning*.

From the point of view of information theory, it doesn’t matter what the word or communication is: if your expectation was that a text could say only *a*, *b*, or *c*, and then it said *f* or it said *q*, the amount of information gained would be identical (regardless of whether *f* and *q* are synonyms, antonyms, or otherwise unrelated). In terms of information or surprisal, common or “function” words such as *the*, *and*, *he/she/it*, *under* etc. (pronouns, conjunctions, prepositions) are the equivalent of an “s” or “e” when playing Scrabble. Very common and useful to have, but low score. (Stylometry is the limit case here, using subtle differences in the weak surprisals of these function words to separate the patterns of one writer, or genre, from another.<sup>11</sup>)

Our first surprise in this research arose when we trained the computer to read the volumes of the *AP* that cover the Constituent Assembly with the expectation that it would be able to distinguish conservatives from radicals or representatives of the First Estate (Catholic clergy) from those of the Second (nobility) and Third (everybody else) on the basis of their vocabularies and word-choice patterns. We formed this hypothesis after reading a paper by colleagues in Informatics at IU that demonstrates clear vocabulary polarization within the United States Congress over the last thirty years (1994-2012). Correia, Chan, and Rocha show that Democrats in this period were significantly more likely than Republicans to say “Africa,” “tax cut,” or “human right”: Republicans were similarly much more likely to say “federal government,” “bureaucracy,” or “death tax.”<sup>12</sup>

Using analogous methods, we wanted to know what words distinguished reactionaries from Jacobins, royalists from future republicans in the French Revolution’s first tumultuous years. To our great surprise, no such clear polarization emerged. Instead, clustered together in the center of “discourse space” were the leading figures on *both sides*: Mirabeau and Cazalès, Robespierre and the abbé Maury. That is, given a word such as “king,” “law,” or “nation” in the *AP*, the probability of it having been uttered by any of those four speakers (as well as others such as Barnave, Garat, or the Lameth brothers) was much more equal than we expected.<sup>13</sup> (see Figure 1) At the edges of “discourse space”—that is,

<sup>11</sup> For an introduction to basic methods, see François Dominic Laramée, “[Introduction to stylometry with Python](#),” *The Programming Historian* (April 2018); for one interesting analysis of a contemporary author in the context of debates about the eighteenth-century “rise of the novel,” see Simon Fuller and James O’Sullivan, “Structure over Style: Collaborative Authorship and the Revival of Literary Capitalism,” *Digital Humanities Quarterly* 11: 1 (2017).

<sup>12</sup> R. B. Correia, K.N. Chan, and L.M. Rocha, “Polarization in the U.S. Congress,” *The 8<sup>th</sup> Annual Conference of the Comparative Agendas Project* (Lisbon, June 2015).

<sup>13</sup> For the purposes of this first hypothesis, we limited our analysis to the 96 “major orators” in the Assembly (as identified first by Alphonse Aulard and then updated in Edna Hindie Lemay, ed.

where the vocabularies are least likely to be shared—we find those representatives who were the Assembly’s policy nerds. Whether it was Vernier reporting on financial matters, Merlin or Target on detailed questions of jurisprudence, they used specialist languages that had comparatively little overlap with the rhetoric central to Revolutionary politics.

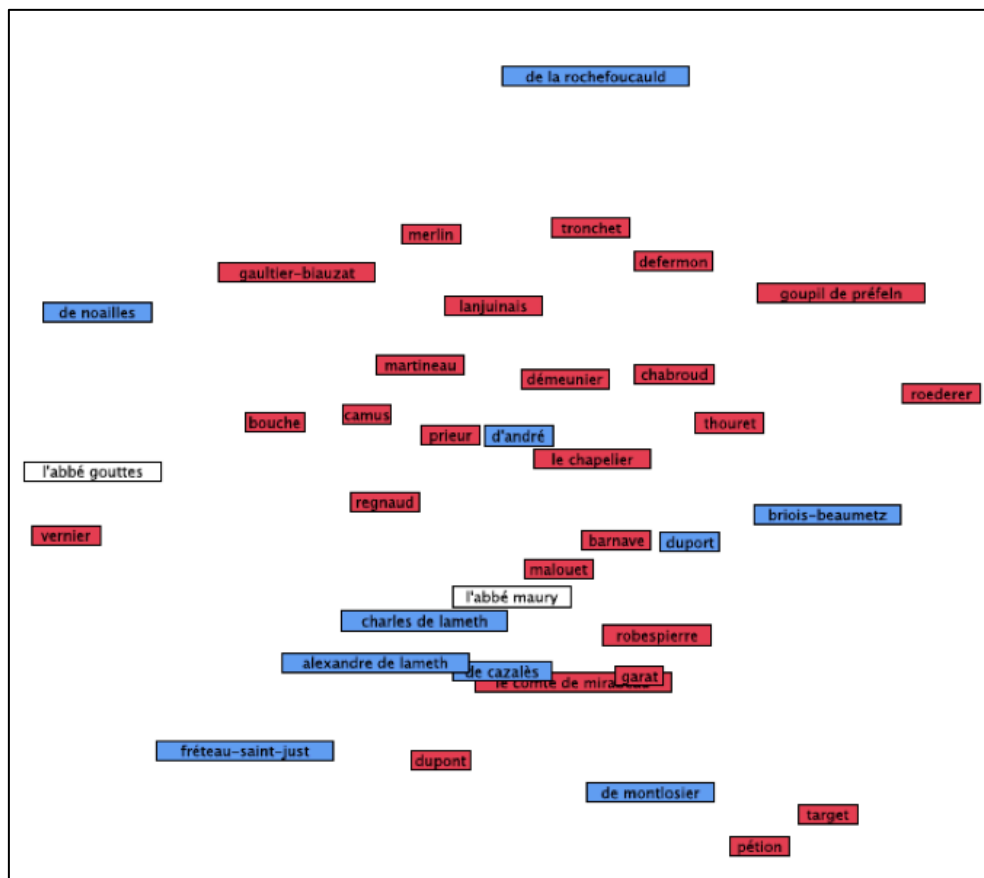


Figure 1: Discourse space in the AP (July 1789-September 1791). White=First Estate deputies; Blue=Second Estate; Red=Third.

The clustering of speakers from Right and Left alike in the center of discourse space did not conform to our prior expectation, but we learned something very important from it nonetheless. Discourse space in the first years of the French Revolution does not correspond to (it does not adequately represent or explain) political space. In this respect, the Assembly’s “discourse space” as we define and analyze it today is remarkably different from its physical space as experienced by the deputies in 1789-1791—where those deputies pushing for change clustered on the presiding member’s left and those resisting it on

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*Dictionnaire des constituants 1789-1791* (Paris: Voltaire Foundation and Oxford University Press, 1991) and Timothy Tackett, *Becoming a Revolutionary* (Pennsylvania State University Press, 1996). Our analysis was of course also limited to those utterances actually included in the AP—whether Robespierre and Maury were equally likely to say these words when speaking “off the record” remains necessarily unknown.

his right (hence our metaphorical use of Left and Right to describe political alignments today).

A crucial takeaway is that the computational analysis of the Assembly's discourse seems to disprove the so-called "discursive explanation" of the French Revolution. There were not distinct discourses of justice, will, and reason (as Keith Baker postulated thirty years ago).<sup>14</sup> Instead, there were shared words and on-going, fierce contestation over what those words meant. Information theory cannot tell us about meaning. If we want to understand those debates over meaning, we will have to read them the old-fashioned way.

Having discovered that the French Revolution's National Assembly of 1789 was far less polarized (at least in vocabulary) than the United States Congress today (a finding that should give us all pause), we turned then to a diachronic analysis. If computational methods and distant reading would not allow us to distinguish one speaker from another in the *AP*, what could they tell us about different periods in the Assembly's history? How did speakers' vocabularies and word patterns change (if at all) from the beginning of the Assembly to its end?

Comparing each speech in the *AP* to those that preceded and followed it (both immediately, and over the entire run of the 1789-1791 volumes), we employed two measures: *novelty*, or how much one speech's vocabulary and word patterns differed from those before it, and *resonance*, or how much those coming after resembled it. Surprisal as an information-theory category has the non-historical property of being something one can weigh with reference to both past and future. Our ahistorical gambler can look backwards, and judge the relative surprise of a new opponent's strategies to those seen before or, look forward, and ask how long these new strategies are likely to persist.

In the *AP*, high surprise in relation to the past indicates some sort of discursive innovation; to be surprising in relation to the future is to be transient and forgotten. In general, we find that most surprising speeches in the Assembly were surprising in relation to *both* past and future—in other words, most novelty did not resonate (the Revolution generated a lot of new-ness that was lost almost as quickly as it was created). A few speakers did, however, innovate in a way that others then imitated (this is what is sometimes called "influence," but the key behavior was of course not that of the so-called "influencer" but of those who followed).<sup>15</sup> Near the top of these influencers was Robespierre. (see Figure 2, next page).

<sup>14</sup> Keith Michael Baker, *Inventing the French Revolution* (Cambridge: Cambridge University Press, 1990).

<sup>15</sup> See Bruno Latour, "War and Peace of Microbes," in his *The Pasteurization of France*, trans. Alan Sheridan and John Law (1984; Cambridge: Harvard University Press, 1988).



Name	$z(\mathcal{N})$	$z(\mathcal{R})$	$\Delta z(\mathcal{R})$	Type
High novelty, high resonance				
Jérôme Pétion de Villeneuve	0.10	0.28***	+0.25***	3g
Maximilien Robespierre	0.11	0.18**	+0.14*	3g
Jean-Denis Lanjuinais	0.06	0.16***	+0.15**	3g
Alexandre Lameth	0.17*	0.14	+0.09	2g
Charles Antoine Chasset	0.31***	0.13	+0.04	3g
<b>Committee (new item)</b>	1.31***	0.12***	-0.27***	—
Philippe-Antoine Merlin	0.27***	0.05	-0.03	3g
Pierre-François Gossin	0.65***	0.03	-0.17*	3g
Jacques François Menou	0.40***	0.02	-0.10	2g
<b>Committee (in debate)</b>	0.29***	0.02	-0.07***	—
<b>Left wing</b>	0.07***	0.02*	0.00	(g)
<b>3rd estate</b>	0.06***	0.01	-0.02*	—
High novelty, low resonance				
Jacques Guillaume Thouret	0.16**	0.00	-0.05	3g
Jacques-Joseph Defermon	0.35***	-0.03	-0.13*	3-
François Denis Tronchet	0.24***	-0.04	-0.11*	3g
Armand-Gaston Camus	0.29***	-0.04	-0.13***	3g
<b>President</b>	0.02	-0.07***	-0.08***	—
Théodore Vernier	0.55***	-0.14	-0.31***	3g
Low novelty, high resonance				
Guillaume Goupil-Préfelne	-0.21***	0.13	+0.20***	3g
Jean-François Reubell	-0.18***	0.11	+0.16**	3g
Jacques Antoine de Cazalès	-0.44***	0.08	+0.21***	2d
Pierre Victor Malouet	-0.27***	0.08	+0.16***	3d
Jean-Siffrein Maury	-0.46***	0.07	+0.20***	1d
Pierre-Louis Prieur	-0.27***	0.05	+0.13**	3g
<b>1st and 2nd estates</b>	-0.10***	0.03***	+0.05***	—
Jean-François Gaultier de Biauzat	-0.13*	0.03	+0.06	3g
<b>Right wing</b>	-0.32***	0.03*	+0.10***	(d)
Low novelty, low resonance				
Antoine de Folleville	-0.44***	-0.01	+0.12	2d
Michel Le Peletier de Saint-Fargeau	-0.20***	-0.01	+0.05	2g
François-Dominique de Montlosier	-0.61***	-0.02	+0.17*	2d
Louis Foucauld de Lardimalie	-0.53***	-0.05	+0.11	2d
Charles Lameth	-0.15*	-0.06	-0.02	2g
Pierre François Bouche	-0.09*	-0.10	-0.07	3g
Antoine Barnave	-0.04	-0.12**	-0.11	3g

Bolded categories include all speeches by speakers who match either the type (estate or political affiliation; based on ref. 14), or role (committee or president; defined in text).  $z(\mathcal{N})$ : novelty compared with system average;  $z(\mathcal{R})$ : resonance compared with system average;  $\Delta z(\mathcal{R})$ : resonance relative to predicted resonance given novelty. "Type" codes for estate (3: bourgeoisie; 2: nobility; 1: clergy) and political affiliation (g: *gauche*, left; d: *droit*, right-wing).  $p$  values corrected for multiple comparisons using Holm-Bonferroni (15).

Figure 2 (source: Barron, Huang, Spang, DeDeo, "Individuals, Innovations and Institutions"...) )



A common and valid criticism of Digital Humanities projects is that they use sophisticated technological means to tell us something we already know (e.g., “Macbeth is a tragedy”).<sup>16</sup> That Robespierre was important for the French Revolution is hardly a new finding, but that our methods allowed us to learn this “at a distance”—with a team of researchers led by a physicist and of whom several do not read much (or any) French—confirms that our methods “work” and opens the way to using them for further analysis.<sup>17</sup>

It also brings us to new questions and confessions (disciplinary as well as empirical, practical as well as conceptual). Humanities researchers share work by e-mailing attachments and using the “track changes” function in Word; scientists prefer LaTeX (an online system a bit like an early version of GoogleDoc, but where all editing is done in plain text). Historians argue among themselves about the value of endnotes over footnotes; scientists use parenthetical, in-text citations. The common model in the sciences is to publish a series of short papers (very short, by humanists’ standards), whereas history remains based on the monograph or definitive, much longer, journal article. (In population biology terms, it’s the difference between *r*-selection and *K*-selection strategies, where the first has many offspring that grow quickly and receive comparatively little care and the latter has only one or two on which it dotes.)

A historian’s questions about this data—does the vocabulary of the 58 Third Estate deputies with some personal or hereditary claim to nobility align more closely with that of the other Third-Estate representatives, or of the Second Estate? do we see vocabulary differences between deputies from the *pays d’etats* and those from the *pays d’élection*?—may interest fellow scholars of 1780s-1790s France, but even very clear answers (if we could get them) are not likely to make much of an impact in the field of Social and Decision Sciences. (In our own vocabulary, those findings would be high novelty and low resonance.) Historians also know that most of the Revolution’s debates and conversations did not happen on the floor of the Assembly, but until the era’s pamphlets and newspapers have been digitized in an equally clear and standard format, our methods will remain applicable to the *AP* alone.

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<sup>16</sup> Michael Witmore, Jonathan Hope, and Michael Gleicher, “Digital Approaches to the Language of Shakespearean Tragedy,” in Michael Neill and David Schalkwyk, eds., *The Oxford Handbook of Shakespearean Tragedy* (Oxford: Oxford University Press, 2016)

<sup>17</sup> See our later paper: Alexander Barron, Jenny Huang, Rebecca Spang, and Simon DeDeo, “Individuals, Innovation, and Institutions in the Debates of the French Revolution,” *Proceedings of the National Academy of Sciences (PNAS)* 115:18 (May 1, 2018), 4607-4612.

## Newspapers and Networks

ROBERT A. SCHNEIDER

I must confess that these papers<sup>1</sup> struck me (given the kind of historian I am) as both familiar and strange: familiar in their focus on connections, sociability, and a broadly cultural approach to this thing called the Enlightenment (and the specifically French Enlightenment at that); but strange in the way they exhibit an intellectual caution, a wariness of large claims, and even a sort of silence with regards to historiographical or theoretical orientations that once might have equipped one with a scholarly compass. These are, to be sure, works in progress; and I'm sure in the full-dress versions more will be made of their hard-won material. But here at least I am struck at how close they stick to their evidence, which is probably a good thing—itsself a cautionary example for someone like me who is always looking for those “drivers” of change Jonathan mentioned yesterday. So I'm properly chastened.

Elizabeth Bond begins her account with assertions that conform to a familiar, general depiction of the eighteenth century: more books, more households with books, increased literacy, more readers, an information overload and the like. But she cuts across these familiar trends by looking into a peep-hole of this culture—the *Annonces, Affiches et Avis Divers*, in three years (1778, 1782, 1788)—for nine provincial cities and Paris; and specifically the 365 letters published in these advertisement sheets/newspapers in those years. In my work on Toulouse many years ago, I also looked at the *Affiches*—primarily as evidence (and here's an example of the sort of “big shift” I was surely unwarranted to be confident about finding—but like many of my generation, I was all about big transitions) of the growing interest in and awareness of the national context at the expense of local concerns. In another words, I came to the *Affiches* with a preset agenda very much underwritten by a dreaded Tonnès-like binary. Elizabeth uses these publications with greater care: she traces the contours of reading practices in all their variety. On balance, she confirms the shift from intensive to extensive reading patterns in this period. One of her most interesting findings regards the use of these newspapers by authors themselves to advertise their own books; but readers too commented on texts that touched them, perhaps adding to the celebrity stature of some authors she notes as a consequence of the material vehicle of the newspaper, perhaps too demonstrating a communion between reader and author that sounds very much like the relationship between Rousseau and his besotted readers that Darnton exposed many years ago.<sup>2</sup> As important as what readers read in the newspapers was where they read them—in reading rooms, *cabinets de lecture*, cafes, gambling halls—suggesting an ethnography of reading that surely was crucial to Enlightenment culture. On balance, however, her most compelling conclusion might strike one as a non-finding (though I think it's more interesting than that). Because references to the same books were rare, she concludes that the Enlightenment was not a matter of shared books—not a development based on a canon—but rather a matter of shared practices.

So my major question is a rather simple one: What are we to make of this conclusion—shared practices over a shared canon? Is it to forsake content in favor of form? And if so, what is it

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<sup>1</sup> Elizabeth Andrews Bond, “Responding to Print in Ages of ‘Information Overload’” and Melanie Conroy, “Networks of the Enlightenment: French Salons and Academies as Networks.”

<sup>2</sup> Robert Darnton, “Readers Respond to Rousseau,” chapter six of his *The Great Cat Massacre and Other Episodes in French Cultural History* (New York: Basic Books, 1984).

about these practices that suggests anything meaningfully called the Enlightenment? There were legions of readers of the *Affiches*, devout Catholics and defenders of the status quo top to bottom, haters of Voltaire and everything he espoused, who also engaged in these same reading practices. In short, these common practices hardly yielded common results. Are they, rather, cultural technologies that could be harnessed for various ends; and, if so, what “drove” France in these decades to a particular set of ends?

Finally, could we endow this snap shot of three years of newspapers with a more dramatic sense of change or at least advent? How did readers reflect on the novelty of the *Affiches*? Was there no comment on its coming into being, and thus a reflection on a reading culture before its emergence—a sense, then, of shared pleasure and enrichment with this novel institution and what “lumières” it could add to the emerging (or evolving) culture coming to be seen in these years as, indeed, Enlightened. For with a better sense of this sort of change—the advent of an institution that, after all, generically is emblematic of a revolution in the circulation and reading of “news”—we then would be able to place more visible markers in the long trajectory of the evolving, almost seamless, largely quantitative line of development (increase in books, more readers, greater literacy) with which Elizabeth begins her paper.

Melanie Conroy’s paper provides a methodologically and technologically impressive reconstruction of what she and her colleagues have called the French Enlightenment Network: the multiple ties established in the various academies and salons that proliferated in the period, and which were further affirmed in correspondences. Her analysis reveals interesting differences in the intellectual valences of salons and academies—with the salon habitués exhibiting less interest in science than their academic counterparts. Much of this is interesting but not necessarily surprising; just as it is not terribly surprising that a smaller proportion of Rousseau’s correspondents were members of academies as compared to Voltaire and D’Alembert; or, more generally, as Denis Richet told us long ago, that the Enlightenment found a very hospitable home in the confines of a tidy society of the urban elite.<sup>3</sup> Not surprising, however, does not mean unimportant. And like the work of her colleagues of the “Mapping the Republic of Letters” project<sup>4</sup> her analysis makes it possible to assert with greater confidence generalizations about Enlightenment culture that we had heretofore simply inferred with much less evidence.

I have two fairly different questions, or rather suggestions, for Melanie. One is to use her hard-won data to confront what has emerged as a provocative challenge to our understanding of the cultural (and historiographic) prestige of the salon. In the view of Antoine Lilti and Nicolas Schapira, it hardly deserves the credit for mobilizing the critical energies of the Enlightenment. To be sure, their critique of Dena Goodman and Dan Gordon is in many ways well-placed; but this has unfortunately led them to cast the salon as merely another embodiment of aristocratic or even courtly hierarchies, divested of its creative potential.<sup>5</sup> It seems to me that Melanie has the goods to enter this fray over an important institution with an impressive array of evidence.

<sup>3</sup> Denis Richet, “Autour des origines idéologiques lointaines de la Révolution française,” *Annales ESC* 1969.

<sup>4</sup> <http://republicofletters.stanford.edu>

<sup>5</sup> Antoine Lilti, *The World of the Salons: Sociability and Worldliness in Eighteenth-Century Paris*, trans. Lydia Cochrane (2005; Oxford University Press, 2016); Nicolas Schapira, *Un professionnel des lettres au XVIIIe siècle: Valentin Conrart—Une histoire sociale* (Champ Vallon, 2003); Dena Goodman, *The Republic of Letters: A Cultural History of the French Salon* (Cornell University Press, 1996); Daniel Gordon,

Second question: in two passages, Melanie asserts that the French Enlightenment Network was “one network—regardless of whether eighteenth-century academicians were aware of the complex relations between academies.” It gave rise to a national network, “even if its members may not have been aware of its national character.” In our pre-workshop discussion we brought up the distinction between “emic” and “etic” approaches: between the historical actors’ awareness of what they were doing, on the one hand, and posterity or the historians’ insight into what they did, on the other. Here, it seems, we have a rather bald assertion of the etic view, without any qualms. Simply put: Are qualms in order? Should we care if salon habitués and academicians largely unconsciously circulated in dense networks ultimately creating bundles of ties that had a “national character?” And if they did so without appreciating what they were doing—what did it really mean?

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*Citizens Without Sovereignty: Equality and sociability in French Thought, 1670–1789* (Princeton University Press, 1994).

## Responding to Print in Ages of "Information Overload"

ELIZABETH ANDREWS BOND

The eighteenth century was a veritable information age, when the overall publication of books, pamphlets, and newspapers skyrocketed, and the range of content diversified dramatically. The tremendous growth in access to print on myriad subjects has been well studied, but how readers interpreted such an information influx remains an open question for historians. My work explores the way that print was consumed and interpreted by a wide cross-section of French literate society through a study of letters to the editor published in Parisian and provincial newspapers between 1770 and 1791.

My current book project takes the subject of letters to the editor as its subject in order to study how readers responded to the information they read and discussed. The book manuscript makes three major interventions. First, it considers the forum of letters to the editor as perhaps the single most expansive and diverse sphere of Enlightenment sociability. Second, it employs digital history techniques to show that information was exchanged and critiqued amongst newspapers, underscoring the formation of public opinion as a contested and contingent process. Third, it articulates a reevaluation of the Enlightenment, not as a canon of thought promulgated by a few philosophes, but instead as a collaborative process above all concerned with finding solutions to the difficulties of daily life.

In response to the Bloomington Workshop's theme, "Numbers, Measure, Scale," I propose a discussion of a draft chapter from my book manuscript. The draft chapter tracks the reception and circulation of books through the forum of letters to the editor. The sources for this paper include a number of Parisian and provincial papers that were published in the 1770s and 1780s, including the first Parisian daily, *le Journal de Paris*, and a range of provincial newspapers called *affiches*, including those published in Toulouse, Poitiers, Metz, and Grenoble—newspapers to which readers frequently penned their critiques of works of fiction, poetry, theatre and other forms of print matter.

The chapter first traces the popular print matter that circulated via a network of Parisian and provincial newspapers by counting and categorizing the publications, themselves. The publications are organized according to the catalogue system used by booksellers in the eighteenth century. Initial results indicate that the topics that interested the French reading public were widespread. Indeed, the range of works cited in the letters to the editor reflected anxieties of "information overload" and efforts to organize human knowledge, an endeavor most famously undertaken by the editors of *l'Encyclopédie* but nevertheless a widespread impulse in the late eighteenth century.

Then, the chapter presents a network analysis of the publications cited. By tracing which publications and which writers cited particular texts, this visualization allows us to ask what kinds of books and ideas circulated in the public sphere. Linking the provincial and Parisian press, this analysis presents exciting possibilities for understanding how reading publics took shape, and for evaluating the extent to which reading circles in the provinces and the capital were connected.

Finally, through close readings of the letters, themselves, this chapter explores the rhetorical structure of the letters and their thematic content to address the ways that men and women in eighteenth century France wrote about the process of reading. While their letters were largely concerned with making an argument, or presenting their case on a particular subject, their letters also lend insight into the processes of reading in the late eighteenth century. Through their discussions of their daily reading habits, their intensive or extensive reading practices, their collective and solitary reading, and their responses of sensibility and rationality, letter writers provide a window into the many ways in which men and women in the eighteenth century made sense of print.

The proposed paper is a contribution to an extensive historiography in eighteenth-century French history about what and how people read on the eve of Revolution. It is also a self-conscious effort to read my sources with a variety of scales of analysis and sets of relationships in mind. In so doing, it embraces the guiding questions of the Bloomington Workshop: to think large and small, to adopt a range of measurements in order to make sense of the information at hand, and to consider the ways in which eighteenth-century readers responded to similar questions.

# Networks of the Enlightenment: French Salons and Academies as Networks

MELANIE CONROY

## I. Networks in Enlightenment Studies

The concept of the network is used in the humanities in at least three distinct ways: 1) as a metaphor for non-hierarchical groups, 2) as a descriptor for groups whose structures are unknown, and 3) to describe quantifiable relations between known entities. While all three concepts can be fruitful, I would like to consider the ways in which the network as a mathematical construct can be used to understand cultural systems, both quantifiable and unquantifiable. In this paper, I explore uses for network mapping within Enlightenment studies, specifically the interaction of formal and informal Enlightenment-era networks, taking academies and salons as examples of each.

The Enlightenment era is an ideal period for such an inquiry because Enlightenment-era society—at least in France—was characterized by the complex interaction of formal social networks like state-sponsored academies and informal networks like salons.<sup>1</sup> The data for the study of the Enlightenment are abundant and of high quality—features that make network analysis more useful.<sup>2</sup> In France, the most elite salons and academies even assembled many of the same people—for example, at least some of the guests of prominent *salonnières* like Tencin and Graffigny were elected to academies like the Académie française and the Académie des sciences.<sup>3</sup> While generally less useful for understanding small groups, network analysis, particularly of the quantitative kind, can reveal broad patterns in larger networks. Likewise, network analysis is useful for tracking interactions between networks; such interactions potentially give us insight into the institutional structure of Enlightenment-era society. By creating and analyzing network graphs of academies and salons, I can locate the most central institutions to the networks of French En-

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<sup>1</sup> For more on social networks and the French Enlightenment, see Daniel Roche, *Les républicains des lettres: gens de culture et lumières au XVIIIe siècle* (Paris: Fayard, 1988).

<sup>2</sup> At the time of this writing, the Electronic Enlightenment Project at the University of Oxford, the largest collection of Enlightenment-era correspondence, contained 70,057 documents and 8,560 biographies of Enlightenment-era figures; for more information and an updated count of the database's contents, see <http://www.e-enlightenment.com/>. The Congrès des sociétés historiques (CTHS) has compiled a dataset of thousands of members of French academies from the small to the large. The CTHS's *L'Annuaire de la France savante XVIIe-XXe* is available online at <http://cths.fr/an/selec.php?sc=pr>. The largest dataset for eighteenth-century salons (The Salons Project) is substantially smaller but contains data on more than 750 figures central to Enlightenment-era sociability. The Salons Project is available online at <http://www.salonsproject.org/>. Finally, the Bibliothèque nationale de France's (BNF) data portal and the Virtual International Authority File (VIAF) portal together provide virtually complete records of authors and their publications, with datasets that permit the quantification of publication records (e.g. numbers of records, editions, library holdings, etc). The BNF's data portal (<http://www.bnf.data.fr>) contains publication data, organized by author, including archival materials and letters. VIAF (<http://www.viaf.org>) tracks international library holdings by author.

<sup>3</sup> See Maria Teodora Comsa, Melanie Conroy, Dan Edelstein, Chloe Summers Edmondson, and Claude Willan, "The French Enlightenment Network," *The Journal of Modern History* 88, no. 3 (2016): 495-534.

lightenment society, as well as individuals who provided vital connections between distant parts of the network.<sup>4</sup>

Quantitative analysis of the social networks of the French Enlightenment reveals that the most central figures of Enlightenment society were a tight-knit group who knew each other through many venues, including salon networks, academies, publication networks, and correspondence networks. These subnetworks were—in the terms of network analysis—highly clustered, meaning that their members were very likely to know one another (i.e. friends of friends were likely themselves to be friends); further, distinct subnetworks were tightly linked to one another. For this reason, the social networks of the French Enlightenment themselves formed one larger social network of which both the salons and the academies were but highly visible parts.<sup>5</sup>

## II. Salons as Networks

The key tool of network analysis is the network diagram. In a network diagram, *nodes* are connected to one another by *edges*. A node can be any entity. In cultural studies, nodes are most often people, or, less frequently, entities like books. Edges, or network connections, can represent social relationships; they can also indicate shared membership in an organization or joint participation in an activity, such as co-authorship. Large network graphs can be hard to read and make sense of, but they show broader patterns within the network. In my analysis of salon networks, I have chosen to make individual people the nodes in the network. An edge represents shared attendance of an elite Enlightenment-era French salon.<sup>6</sup>

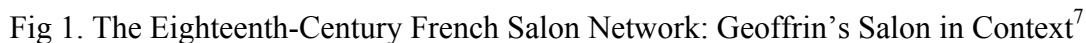
The structure of salon networks is as much an artifact of the way the data are collected as it is representative of real historical relationships. Most notably, the *salonnières* are overrepresented in the network, since it is easiest to document the presence of the hosts. Salon networks are best conceived of as ego networks, centered on the salon host, with salons linked together by shared guests. (An ego network is a network that consists of one node and its neighbors, and potentially the neighbors of its neighbors). We cannot, therefore, draw too many conclusions about the structure of the salon network as a whole based on network analysis of salon data, especially given how fragmentary the data on salon attendance are. It would also appear that famous or infamous figures are overrepresented because they are more often mentioned as attending a salon, especially in the case of infrequent attendance. This means the common guests who link one salon to another in the network diagram may be disproportionately famous or worthy of mention. Nevertheless, we can still locate the most central salons and the figures that connect one salon to another. Looking at the salon network as an ego network centered on Mme Geoffrin's salon, for example (Figure 1), we can see which salons Mme Geoffrin's salon was most connected to and the salons with which Mme Geoffrin's shared the most members.

<sup>4</sup> For general discussions of the principles of networks and methods of network analysis, see M. E. J. Newman, *Networks: An Introduction* (Oxford, 2010) and Albert-László Barabási, *Linked: The New Science of Networks* (New York, 2002).

<sup>5</sup> See Comsa et al.

<sup>6</sup> The data for this study of Enlightenment-era French salons were collected and verified with Chloe Summers Edmondson as a part of the Salons Project, a database of European salons from 1700 to 1800, and a part of Mapping the Republic of Letters. We studied the salon attendance of more than 550 habitués of six Parisian salons (Graffigny, Tencin, Geoffrin, Deffand, Lespinasse, and Necker).





<sup>7</sup> Data from Conroy and Edmondson, *The Salons Project*.  
The WORKSHOP

d'Épinay's salons and is, therefore, located farther from the node for Geoffrin's salon and closer to those other nodes. Salons and individuals with fewer or no connections to Mme Geoffrin's salon are found around the periphery of the diagram; they are not connected to the core network, which is centered on Geoffrin, Tencin, and Lespinasse's salons, nor are they connected to those salons that are connected to Mme Geoffrin's salon. Lambert's salon, which is located to the left of Geoffrin's salon, has a large number of members but most of the connections between Geoffrin and Lambert's salons are indirect, meaning that they have members mutually shared with other salons.

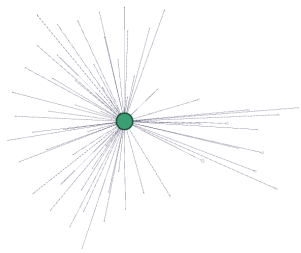
By looking more closely at individual nodes, we can see which individuals connect these core salons. Lespinasse's salon was tightly linked to Geoffrin's through shared guests, such as the abbé de Bon, Étienne Charles Loménie de Brienne, and the Baron d'Holbach, himself an important host of dinners with an atheistic reputation. Mme Tencin shared with Geoffrin guests like Charles Pinot Duclos and Bernard Le Bovier de Fontenelle, who were both members of several academies, including the Académie française and the Académie des Inscriptions. Other salons, such as Épinay's, Dupin's, Quinault's, and Graffigny's, were more marginal and tended to be linked to Tencin's salon, not directly to Geoffrin's. Later salons like Mme de Staël's and Mme de Genlis's were linked to late-eighteenth-century salons like Lespinasse's. In short, the structure of the salon network was heavily dependent on the chronology of the salons, such that the earliest salons were linked to one another and the latest salons were linked to one another.

While there are other ways of finding common members and shared connections between salons, network analysis allows us to find large numbers of connections quickly. It also allows us to find rare connections, such as individuals who attended two salons which shared few members. We can also quickly locate those individuals who had no *known* connection to Geoffrin's salon—in other words, those nodes that are located around the periphery of the diagram. This is particularly useful in locating individuals who *may* have attended another salon with a member of Mme Geoffrin's salon, but who did not attend hers. Even the participants of salons themselves may not have known about such connections, nor the lack thereof, given that social connections like friends of friends may be known to members of the network, or they may not. Yet the network can influence people without their being aware of its structure. Social networks affect the news people hear about, the books they read, and the opportunities they have, based on the social status and capital that they derive from their place in the network.

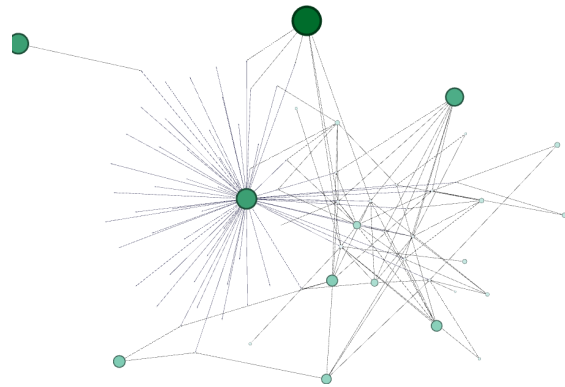
### III. Enlightenment-Era Salons and Networks of the Enlightenment

One of the most active debates about the salons and their role in the Enlightenment turns on the presence of the *philosophes* and their allies in elite social *milieux* like *mondain* salons. Network analysis can reveal the degree to which a group like the *encyclopédistes* was integrated into the salon network, as well as how they were integrated. Of the more than 550 salon hosts and guests in this pilot project, twenty-two were found to be contributors to the *Encyclopédie*, the signature project of the French Enlightenment. Here I am using contribution to the *Encyclopédie* as a proxy for contribution to the French Enlightenment, even if it is a rough and insufficient measure. Network analysis shows that the *encyclopédistes* were well integrated into the salon network, despite being a minority in all of the salons studied. Figure 2A shows the ego network of these *encyclopédistes*—that is, the contributors to the *Encyclopédie*—in the salon network at a depth of one

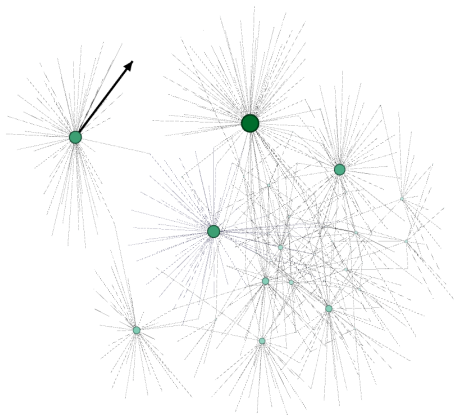
(showing only one edge and the nodes connected to the *encyclopédistes* directly). At this depth, 8.4% of nodes are visible and 6.5% of edges are visible. Figure 2B shows the same diagram at a depth of two. At this depth, 11.3% of nodes are visible and 15% of edges are visible. The majority of significant salons in the French salon network are already visible, since they are connected to the *encyclopédistes* through one or more of their guests (Geoffrin, Lespinasse, Necker, etc.); so, too, are minor salons like Deffand's, Quinault's, and Dupin's. At a depth of three, 53.8% of nodes are visible and 59.4% of edges are visible (Figure 2C). In the last diagram, the ego network is visible at a depth of four; at this depth, 82% of nodes are visible and 87.6% of edges are visible (Figure 2D).



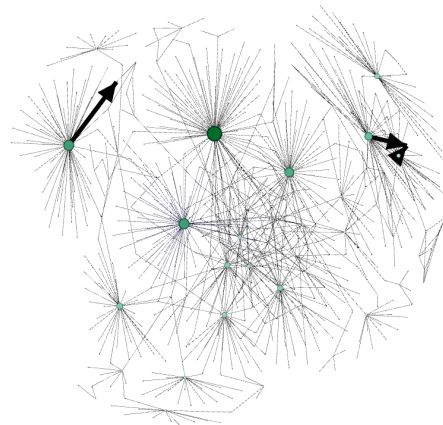
2A. The Encyclopédistes in the 18<sup>th</sup>-Century Salon Network (Ego Network, depth 1)



2B. The Encyclopédistes in the 18<sup>th</sup>-Century Salon Network (Ego Network, depth 2)



2C. The Encyclopédistes in the 18<sup>th</sup>-Century Salon Network (Ego Network, depth 3)



2D. The Encyclopédistes in the 18<sup>th</sup>-Century Salon Network (Ego Network, max depth)

Fig 2. Ego Network of the *encyclopédistes* in the Eighteenth-Century French Salon Network

Between a depth of three and a depth of four, the segments of the salon network least linked to the *encyclopédistes* come into view: Tencin's salon, which was too early to be connected to the authors of the *Encyclopédie*; the younger members of Staël and Genlis' salons, and guests who only frequented one salon. (The elements of the salon network that remain invisible and are still not connected to the *encyclopédistes* include the marquise de Scudéry's seventeenth-century salon, which is far too early to contain *encyclopédistes*, Scudéry having died in 1701). These diagrams show that the *encyclopédistes* were central to the eighteenth-century French salon network; they were also closely linked to the salons that were central to the French salon network, such as Geoffrin and Lespinasse's salons. This suggests that the French salon network was open to the *philosophes* and their allies. Once again, time emerges as the strongest factor in the organization of the French salon network, rather than ideology or social status, also indicating a high degree of mobility and permeability across salons and across classes.

The picture that emerges of these elite French salons is of a high degree of *mixité*, or, at least, a lack of social segregation. For one thing, the most significant segregation of the salons was based on time; in the case of the extended networks of both Mme Geoffrin and of the *encyclopédistes*, the primary driver of segregation and disconnection was chronological. For another, the *encyclopédistes* were clearly moving in the same circles as these elite *salonnières*, since some *encyclopédistes* attended all of the major salons that were contemporaneous with the *Encyclopédie* and were linked to other, mostly minor, salons through co-attendance.

#### IV. Academies as Networks

Informal networks such as salons can be studied using network analysis on a small scale. Networks like ego networks centered on one individual or one salon capture the structure of small or transient networks well. More formal networks like academies, with more reliable documentation of members, and often longer timelines and larger memberships, can be studied even more profitably using network analysis, since we know more about the structure of the larger network and we can draw more conclusions from these more reliable data. Using network analysis to study Enlightenment-era French academies, we can see that academies were loosely connected, with a few key members—often the most highly accomplished—connecting even the most disparate academies.

My study of academies is based on the work of the Congrès des sociétés historiques (CTHS), which has compiled a dataset of thousands of members of French academies.<sup>8</sup> By analyzing the affiliations of 1,307 members of 77 eighteenth-century French academies, I discerned broader patterns within the academic network. French academy members were part of one network—with the exceptions of the Académie de Cora and the Académie de Bretagne, which did not share documented members with other academies. This academic network was centered in Paris and connected every major region of France. The royal academies in Paris—particularly the Académie des sciences, the Académie française, and the Académie des Inscriptions et belles-lettres—were highly integrated with one another and the rest of the academic network, in France and throughout Europe.

<sup>8</sup> The CTHS's "L'Annuaire de la France savante XVIIe-XXe" is available online at <http://cths.fr/an/selec.php?sc=pr>.



Fig 3. Affiliation Network of Eighteenth-Century French Academies<sup>9</sup>

The Académie des sciences was the largest academy, with 326 members. It was also the heart of the French academic network. The Académie des sciences shared 8% of its members with the Académie française and the Académie des Inscriptions. As a proportion of the other academies, the weight of shared membership with the Académie des sciences was even more substantial: 32% of the Académie française and 10% of the Académie des Inscriptions, as well as 10% of the Académie de peinture et de sculpture, 29% of the Académie d'agriculture, and 18% the Académie de marine in Brest.

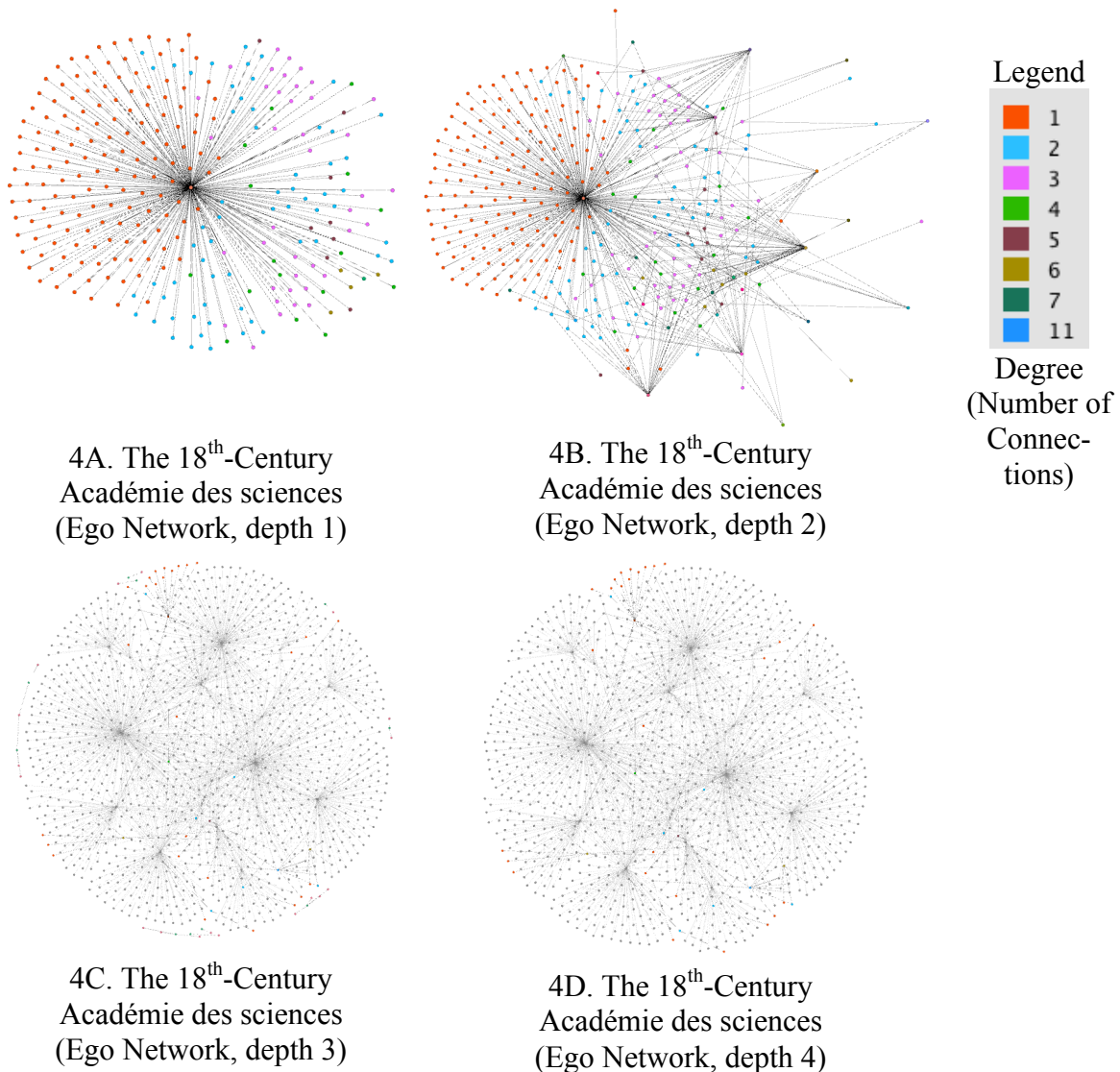
While some of the major academies did not share members, for example, the Académie française and the Académie de marine, the academic network as a whole shared enough members for each major academy to be linked to another by a relatively short path. The academic superstars who were members of three or more academies accounted for most of the integration of the French academic network. Yet, even they would likely be ignorant of the extent of integration of the network, especially of connections that existed three or four hops from their place in the network.

The French academic network is particularly well suited to quantitative analysis because it was so large and because academies kept thorough records.<sup>10</sup> Indeed, French

<sup>9</sup> Source: Conroy, "The Eighteenth-Century French Academic Network," in progress.



academies have been studied as examples of relatively closed and fixed groups that are good case studies for historical demography.<sup>11</sup> My study of the CTHS academies data reveals the truly national character of that network. Though most academy members were only members of one academy, most of the *académiciens* in the network were linked to the Académie des sciences by three or fewer hops. The following diagram shows the Académie des sciences as an ego network—that is, with the Académie des sciences at the center and the members of the academy linked to that node (Figure 4A). All of the nodes are colored according to their degree—in other words, the number of links to that node. Another way to think about degree is to say that the red dots have only one connection, or edge; the blue dots have two connections; the pink dots have three connections.



<sup>10</sup> Classic quantitative histories of the major French academies include Jacques Véron, 'L'Académie française et la circulation des élites: une approche démographique', *Population* 40(3) (1985), p.455-71 and Henri Leridon, 'The Demography of a Learned Society: The Académie des Sciences (Institut de France)', *Population*, vol. 59, no. 1 (2004), p.81-144.

<sup>11</sup> For example, from 1634 to 1757, the average age of election to the Académie française was 44; between 1758 and 1878, it was 50, see Véron, 'L'Académie française et la circulation des élites', p.457.

The second diagram shows the Académie des sciences as an ego network again; this time the graph also shows “neighbors” of members of the Académie des sciences (Figure 4B). The majority of members of the French academic network, as well as the network’s structure, are visible in the third graph, which shows the Académie des sciences as an ego network at a depth of three (Figure 4C). For the most part, this means that many members of the Académie des sciences were also members of other academies and most members of the eighteenth-century French academic network were members of these academies that are “friends of friends” of the Académie des sciences. In fact, so many *académiciens* were in academies which shared members with the Académie des sciences that the network can almost entirely be reconstituted in three hops. The national French academic network was, thus, geographically broad but remarkably integrated, with the Académie des sciences as its anchor.

### V. How Salons Related to Academies

The elite salon world was not nearly as well documented as the world of the academies. From what we do know about the membership of elite French salons (those most likely to be documented), salons were integrated into the national network of academies chiefly through the Parisian royal academies. The six salons that we studied shared a significant number of members with the royal academies and a smaller number with the provincial academies. All six salons that we studied contained academy members; between roughly 15-50% of salon participants (including women) were academy members. Tencin, Lespinasse, and Necker’s salons were remarkable for having a large proportion of their participants in royal academies. Deffand’s salon contained the fewest academy members—in part because her salon included a higher proportion of women than the other five salons.

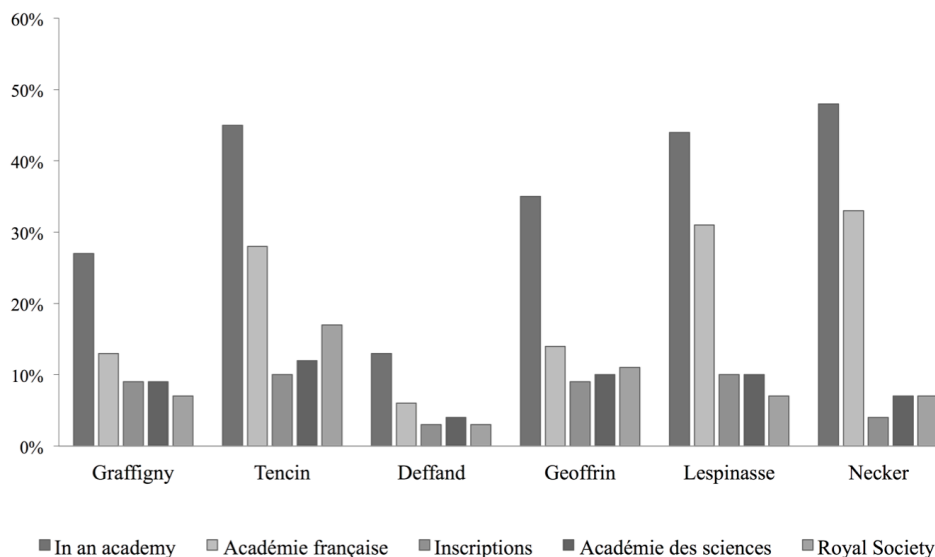


Fig 5. Percentage of Academy Members in Six Elite Parisian 18C Salons<sup>12</sup>

<sup>12</sup> Source: Conroy and Edmondson, “The Empire of Letters: Enlightenment-Era French Salons,” in progress.

Members of the Académie française were well represented in the salon world, constituting around 30% of the members of Tencin, Lespinasse, and Necker's salons, and accounting for under 10% of members only at Deffand's salon. The Académie des Inscriptions et belles-lettres, the Académie des sciences, and the Royal Society of London were less represented, especially given the larger number of members of the Académie des sciences. Still, these academies constituted a significant minority of between 5% and 15% of documented guests at most of the salons, aside from Deffand's, where, as already stated, academy membership was lower due to the high proportion of women, and at Tencin's salon, where membership in the Royal Society of London was particularly high, at nearly 20% of its participants. As we have already seen, the triad of large Parisian royal academies was integrated into a national network of academies that brought together scholars from throughout France. It would appear that the elite salons were plugged into that national academic network through the significant number of *académiciens* among salon guests. Yet the existence of common members of both networks does not address the larger question of how these informal networks related to formal networks.

## VI. The French Enlightenment Network

Analysis of eighteenth-century French correspondence networks reveals that salons and academies were not only enmeshed with each other but also part of a broader network of friends, family members, and acquaintances who knew each other through multiple venues. According to earlier research on the Electronic Enlightenment dataset, there were 1,994 French correspondents of major Enlightenment figures during the eighteenth century, of whom 282 were academy members and 202 were members of the French royal academies.<sup>13</sup> Like the French academy network, these correspondents formed a large network centered on Paris, which we referred to as the French Enlightenment Network.<sup>14</sup> But, far from constituting two separate networks, the French Enlightenment network, established through correspondence connections, and the French academic network, established through academic affiliations, shared significant numbers of members with each other, and with elite Parisian salons. Those who were more central in French Enlightenment correspondence networks were far more likely to be academy members than those who wrote fewer letters. Those who were more central in the Enlightenment network were more likely to be members of salons. And members of elite salons were more likely to be members of the most elite academies or of multiple academies. The fact that centrality in all of these networks was correlated suggests that they were mutually reinforcing.

Members of the Royal Academies—especially the Académie française and, to a lesser extent, the Académie des sciences and the Académie des inscriptions et belles-lettres—were frequent correspondents of the major figures of the French Enlightenment (Voltaire,

<sup>13</sup> In order to measure the degree of participation of academy members in Enlightenment-era correspondence networks, I looked to another dataset: Maria Comsa, Melanie Conroy, Dan Edelstein, Chloe Edmondson, and Claude Willan, "French correspondents of major Enlightenment figures," Stanford Digital Repository (2014), <http://purl.stanford.edu/bc436tm1194>. This dataset was derived from the Electronic Enlightenment project at Oxford. The Electronic Enlightenment database contains information about people and correspondence in early modern Europe.

<sup>14</sup> See Comsa et al.



D'Alembert, Rousseau). But there were differences in the proportion of academy members among the correspondents of Enlightenment figures. Rousseau's French correspondents were the least likely to be academy members. Only 16% of Rousseau's French correspondents were in an academy; 11% were in a royal academy and 4% were only in a provincial academy. Voltaire's French correspondents were slightly more likely to be in an academy than Rousseau's French correspondents: 21% were in an academy; 3% were only in a provincial academy. D'Alembert's French correspondents were the most likely to be in an academy. Nearly 50% of d'Alembert's French correspondents were academy members. 30% were in a royal academy. Among his 143 correspondents, 23 were members of the Académie française (16%); 18 were members of the Académie des sciences (13%); 14 were members of the Académie des inscriptions et belles-lettres (10%). D'Alembert's correspondents were the most likely of these three writers' to be in an academy.

The correspondents of each of these major Enlightenment figures appear in all six elite Parisian salons—with the exception of Deffand's salon, which hosted none of Rousseau's correspondents. Voltaire's correspondents were the most common in all salons, again with the exception of Deffand's, which hosted more of D'Alembert's correspondents. Lespinasse and Necker's salons had the highest proportion of correspondents of major Enlightenment figures (about 45% of their guests were correspondents of Voltaire); Tencin and Graffigny had fewer (30% to 40% correspondents of Voltaire; only 5% to 15% correspondents of Rousseau or D'Alembert). Surprisingly, given the reputation of her salon as a meeting place for the *philosophes*, Geoffrin's salon had many fewer Enlightenment correspondents than any salon other than Deffand's. The salon network was, thus, well integrated into the correspondence networks of Enlightenment France but more through Voltaire than through D'Alembert, who was preeminent in the French Academic network.

## VII. Conclusions

In eighteenth-century France, the French academic network and the elite Parisian salon network were highly integrated, with salons sharing many of their members with the much larger, or at least better documented, academic network. Institutional histories of the salons and the academies have generally focused on the ways in which one type of institution created connections. Networked histories show how these institutions were themselves constituted by prior connections and how various types of social networks interacted with one another. Members of elite salons shared academic connections, publication networks, and knowledge networks, as well as social connections. The *encyclopédistes* and their acquaintances were present in all of these networks, likely because Enlightenment philosophy was present, and potentially propagated, through the machine of the French Enlightenment network.

Insofar as we can determine the importance of the salon network to the academic network, the French academic network was so large and disseminated that it is hard to see how a few elite salons could act as gatekeepers for the much larger academic network. Rather, it seems that the most elite salons and the most elite Parisian academies, especially the Académie française and the Académie des Inscriptions, all drew from the larger French Enlightenment network, which itself drew upon and contributed to the academic network. Whereas scientific networks were more decisive for the French Academic net-

work, salon networks were more integrated into literary networks. Thus, more salon participants were elected to the Académie française and the Académie des Inscriptions et belles-lettres than to the Académie des sciences or the Royal Society. Given the larger size of all these academies in comparison to the salons, it is more likely that the shared membership of salons and academies derived mainly from the complex web of social connections that existed in eighteenth-century Paris—from educational networks to socio-economic networks—than the actions of the *salonnières* to have specific men elected to the academies.

While we should be hesitant about drawing conclusions about the structure of informal and loosely documented networks like salons based on network analysis, even such networks can be profitably studied so long as we remain aware of the limitations of network analysis and the underlying data. Larger networks are more easily studied as networks; we should, nevertheless, maintain an awareness of the extent to which participants were aware, or not aware, of the network's structure, which tends to be more extensive than historical actors realize. Network analysis offers us a unique view of the complex social interactions and connections within human societies, inaccessible by more direct accounts and methods, whether contemporaneous or in our own time.

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## Matter and Meaning

BRET L. ROTHSTEIN

The twentieth-century mathematician G.H. Hardy once declared that one of the most important qualities he sought his discipline was “depth”—in essence, a measure of the links between one idea and others associated with it. Ideas might take what he considered higher forms, expressing in localized, fairly specific concepts, such as that of a whole number. Or, they might pertain to a lower, more foundational, level, as in the case of numerical categories, such as rational and irrational. The latter were preferable, he suggested, because they dealt not with superficial traits, but with the underlying laws that govern and unify those traits. In this respect, he was echoing a sentiment that had long characterized not just mathematics, but in fact a broad range of endeavors. Recall the declaration, in the Book of Wisdom, that God “hast ordered all things in measure, and number, and weight” (11:21). Implicit in both Hardy's statements and in Scripture is the idea that the physical world is, in effect, an accumulation of more or less crude objects that gain their value by virtue of their transitive potential, their ability to *refer to something else*.

However, as Ayana's paper nicely demonstrates, both physical objects and the means by which we perceive them could have surprising conceptual density. Indeed, the long discourse of ocularcentrism that she deploys to such good effect was founded on a paradox: many presumed that sight was the noblest of senses, but they also understood that it carried at least two risks. According to the Pauline tradition, the greatest risk was that of *concupiscentia oculorum*. The second, as Ayana discussed to such good effect, was the deceptiveness of appearances—that is to say, their *ignoble* potential to mislead. One could so easily be too captivated by surface details to gauge the more fundamental significance of a given object, be it either manufactured or naturally occurring. This is, in fact, the root of the Pauline suspicion of sight and, indeed, of the sensorium more generally: that perception, unless kept on a tight leash by judgment, will cleave to the superficial and overlook the measure, number, and weight of Creation. Pressing the transitivity of objects was, for Paul, the sole possible recuperative avenue. One could work toward redemption only by seeking “invisible things ... clearly seen [through] the things that are made.”<sup>1</sup> But how might one gauge the clarity of one's perception?

One possible answer lies with a word that Ayana uses at a couple of different points in her paper: “speculation,” which appears to carry a pejorative connotation for her. She writes of “significant confusion between science and speculation” and “fascination, fear, and speculation in the public consciousness and in intellectual discourse” (pp. 1 and 4)—in both cases implying a dichotomy between *ad hoc* interpretive effort and the pursuit of more rigorous, disciplined understanding. At the risk of putting too much weight on the term as deployed in her paper, one nonetheless wonders if here (as with mirrors) we might find another useful paradox.

The term *speculatione* has an interesting history, both with respect to Pauline theology (as Jeffrey Hamburger has demonstrated), and with respect to the measure, and number, and weight of Creation. Consider, for instance, *De viribus quantitatis* (On the Virtue of Numbers), a pedagogical text by the mathematician Luca Pacioli written around 1500. Occasionally described as “the

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<sup>1</sup> See Jeffrey Hamburger, “Speculations on Speculation: Vision and Perception in the Theory and Practice of Mystical Devotion,” in: W. Haug and W. Schneider-Lastin, eds. *Deutsche Mystik im abendländischen Zusammenhang. Neu erschlossene Texte, neue methodische Ansätze, neue theoretische Konzepte. Kolloquium Kloster Fischingen 1998* (Tübingen, 2000), p. 379.

first recreational mathematics text," *De viribus quantitatis* lays out a series of algebraic problems, geometric challenges, and—perhaps most delightfully—mechanical puzzles, including two now known as the "Chinese Rings" and the "Victoria" disentanglement.<sup>2</sup> The puzzles are less important, at least for now, than how Pacioli discusses them. He begins his introduction to the Victoria by declaring that, "some operations, which are greatly insightful (*de grande speculatione*), are done to give delight to the group."<sup>3</sup> Elsewhere, he describes another disentanglement as a "thought-provoking object that refines the ingenuity of youths in a similar fashion [to the one he mentions immediately before it]."<sup>4</sup> Speculation, in this instance, has more to do with reflection and insight than with undisciplined interpretation. One wonders, then, if something similar might have been the case for Komarek, Pollarolo, and their respective intellectual networks. Or, had some kind of shift occurred?

On a related note, both papers raise the vital question of how one should value perception. Objects may possess transitive potential, but they also remain objects nonetheless—whether near or far, within reach or beyond the stratosphere. Pacioli's puzzles certainly weren't abstractions. After describing the mechanics of solving the Chinese Rings, for instance, he recommends that his reader have an example on hand. In addition, he says, one should minimize explanation of the process involved in solving the puzzle because, "... not just describing the method, but actually showing the effort [enables a youth] to grasp [it]."<sup>5</sup> You don't have to be Maurice Merleau-Ponty to realize that apprehension was both physical and intellectual for Pacioli. One *saw* and could *feel* the results of successful or unsuccessful responses to a given problem because mathematics, like the physical phenomena it governed, had tangible consequences.<sup>6</sup>

A sour and mean-spirited man once observed that "words mean things." Perhaps we might spare a moment to consider the possibility that things also mean things.

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<sup>2</sup> The suggestion comes from David Singmaster, "*De Viribus Quantitatis* by Luca Pacioli: The First Recreational Mathematics Book," in: Erik D. Demaine, Martin L. Demaine, and David Eppstein, eds. *A Lifetime of Puzzles: Honoring Martin Gardner* (Natick, MA, 2008), 77-122.

<sup>3</sup> Luca Pacioli (eds. Maria Gerlaschi Peirani and Augusto Marinoni), *De Viribus Quantitatis* (Milan, 1997), p. 282: "Sonno alcune operationi facte per dar dilecto alla brigata, quali sonno de grande speculatione."

<sup>4</sup> Pacioli, 284: "Un altro caso ancora speculativo, lima de ingegno a li giovini, si propone in questo modo."

<sup>5</sup> Pacioli, 292: "[E] così successive, de mano 'in mano mettarai li altri, et parcas lector, perché non solo a scrivere el modo, ma actu mostrandolo, con fatica el giovine lo aprende."

<sup>6</sup> One suspects there might be an interesting connection for both authors with Matthew Hunter's recent book *Wicked Intelligence: Visual Art and the Science of Experiment in Restoration London* (Chicago, 2013).

## Sowing to Scale in the *Parterre de Broderie*

SARAH GRANDIN

The *parterre de broderie*—a plane in which boxwood, sand, and flowers were arranged to imitate embroidery—became the central feature of French formal gardens in the first half of the seventeenth century. It delighted the viewer by enlarging a diminutive floral motif typically reserved for a courtier's cuff and transmuting it into greenery. Through this conceit, the *parterre* displayed human mastery over the landscape and the triumph of artifice over nature. Within the context of André Le Nôtre's colossal gardens for Louis XIV, however, the *parterre* suffered growing pains. Moored as it was to a minute referent, its scalability was limited. Though the king's first gardener, Le Nôtre, continued to design and employ *parterres*, he was critical of their legibility, reportedly claiming that the only people who enjoyed them were nursemaids, who would have seen them from an elevated, fixed point from within the château.<sup>1</sup> Viewed up close, the *parterre*'s ornament risked dissolution and distortion, its scrolls and flourishes engulfed by the very shrubbery from which they emerged. Le Nôtre's concern reflects the type of pressures placed on components of landscape architecture as they were made to adapt to larger properties during the reign of Louis XIV.<sup>2</sup> Movement from plan to planting and from paper to ground precipitated strain on available materials and techniques. The *parterre*'s troubled status is thus embroiled in two of the greatest challenges to the realization and maintenance of the Sun King's gardens: that of amassing discrete organisms and individual gestures into a harmonious whole, and that of accounting for the different scales at which these elements would be viewed.

Brought from Italy in the sixteenth century, ornamental *parterres* were naturalized in the French tradition, a transfer epitomized in the heavily “embroidered” gardens of Marie de Medici at the Luxembourg Palace.<sup>3</sup> Their designer, Jacques Boyceau de la Barauderie, wrote in his 1638 treatise that the disposition of an entire garden when viewed from on high should appear at a glance as a single *parterre*.<sup>4</sup> In a similar vein, the polymath Antoine-Joseph Dezallier d'Argenville claimed in his 1709 treatise that the gardener's task was to “sew” all components of a site together to make a coherent whole.<sup>5</sup> Depending on the size of the garden, the *parterre* could occupy the majority of the landscape's surface area, or be only one of many features assembled.

In light of Boyceau and Dezallier's statements, it seems that the *parterre*'s resemblance to embellished cloth served a practical purpose: to fill and unify the garden. Though the *parterre*

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<sup>1</sup> Louis de Rouvroy Saint-Simon, *Mémoires de Saint-Simon*, ed. A. De Boislisle, vol. XV (Paris: Librairie Hachette, 1897–1918), 471–473.

<sup>2</sup> Georges Farhat, “L'Optique de *Pourtraiture* au jardin en France (ca. 1550–1650): Transferts et invention entre perspective et jardin,” *De la peinture au jardin*, ed. Hervé Brunon and Denis Ribouillault (Florence: Leo S. Olschki, 2013), 117–149.

<sup>3</sup> Ada V. Segre, “De la flore ornementale à l'ornement horticole: Transferts de techniques et structures géométriques,” *André Le Nôtre, Fragments d'un paysage culturel: Institutions, arts, sciences et techniques* (Sceaux: Musée de l'Île de France, 2006), 188–203.

<sup>4</sup> Jacques Boyceau de la Barauderie, *Traité du jardinage selon les raisons de la nature et de l'art* (Paris, 1638), 68.

<sup>5</sup> Antoine-Joseph Dezallier d'Argenville, *La théorie et la pratique du jardinage [...]* (Paris: J. Mariette, 1709), 121.

required skill to plant and some upkeep over time, it was a relatively efficient and economic way to decoratively occupy sizeable swaths of land.<sup>6</sup> Nature's finest ornament—flowers—were tiny, costly, fragile, and fickle by comparison, not to mention that their distinct perfumes and unique structures would have been lost in the vast expanse of bigger gardens.<sup>7</sup> Through its floral and vegetal motifs writ large, the *parterre* imitated not only embroidery, but also visually amplified the botanical specimens from which the fiber art drew inspiration and from which the garden itself was made. The organicity of the *parterre*'s stylized motifs, not to mention the contrivance of nature “re-presenting” itself, made it an ideal feature to border a château. The *parterre* served as a site of transition between the ordered rhythms of the interior and the exterior, in which natural elements were worked into architectonic submission. By enacting a shift in scale and material, the *parterre de broderie* announced, at once, the stylistic consistencies and practical ruptures between the royal apartments and terraced gardens. In its intermediate size and liminal location, the *parterre de broderie* hovered between the apprehensible finitude of flowers fixed in silk thread and the infinity evoked by Le Nôtre's manipulation of topography and sightlines.

At the same time, it is all too easy to harbor an outsized perception of the *parterre*'s particular importance or to presume its successful reception in the Sun King's gardens due to the way it was represented in prints and drawings. Its prominence in the most illustrious French formal gardens of the *grand siècle* has been magnified in two types of graphic representation: in plates depicting actual and suggested plans for garden design, and in pictorial prints by the likes of Israël Silvestre and the Pérelle family. In the first category of images, the proliferation of *parterre* plates resulted from the evolving status of the seventeenth-century gardener, who sought to professionalize and fashion himself as a practitioner of a liberal art. By theorizing their practices and publishing treatises full of illustrations, gardeners such as Boyceau and André and Claude I Mollet could present themselves as accomplished draftsmen equipped with a knowledge of geometry. In the second category, *parterres*' prime placement in the foreground of a disproportionate number of garden views resulted from the simple fact that they were often located nearest the château to improve their visibility.

Furthermore, the *parterre*'s apparent success in imitating embroidery is heightened by the graphic medium of print itself, which largely suppresses the boxwood's texture and volume in favor of those distinct contours to which the burin and etcher's needle are best suited. It has been suggested that in the particular context of Versailles and its satellites, the *parterre de broderie* stood as an allusion to the crown's commercial preeminence and sumptuary authority in the realm of luxurious textiles.<sup>8</sup> Yet this seamless semiotic transposition—between embroidery and its boxwood mimic—is tenuous given the mutability of the planted figures, not to mention the *parterre*'s employ beyond royal gardens before, during, and after the Sun King's reign.

Great pains were, in fact, taken to “draw” in the garden and make the *parterre* resemble embroidery. To achieve this fidelity, gardeners employed transfer methods common to the fiber and graphic arts alike. After squaring the original design, the gardener would lay out a grid of ropes

<sup>6</sup> Though there are some mentions of cleaning, raking, and trimming parterres throughout the archives of the Maison du Roi (the O-1 series held at the Archives nationales in Paris), the paucity of references suggests that a relatively modest effort was required to maintain them.

<sup>7</sup> Elizabeth Hyde, *Cultivated Power: Flowers, Cultures, and Politics in the Reign of Louis XIV* (Philadelphia: University of Pennsylvania Press, 2005).

<sup>8</sup> Chandra Mukerji, *Territorial Ambitions in the Gardens of Versailles* (Cambridge: Cambridge University Press, 1997), 124–135. Thierry Mariage, *L'univers de Le Nôtre: Les origines de l'aménagement du Territoire* (Bruxelles: P. Mardaga/ Architecture + Recherches, 1990), 77–81.

and pegs on his prepared terrain to scale up the pattern, section by section.<sup>9</sup> He would draw on the land with his super-sized stylus, and then place individual boxwood plants along these lines. In a way, this process is similar to that of the *parterre*'s homologue, embroidery: in both practices the grid—a tool that originated in the warp and weft of textiles itself—was the substrate or scaffold on and through which botanical motifs were translated and generated.<sup>10</sup> In their manufacture, both *parterres* and embroidery were objects of the accumulation of stitches or specimens ordered into a tight-knit image. And yet the scale of the *parterre*'s constitutive “pixels,” along with their capacity to grow and change in time, made the conditions of this operation of transfer quite different.

The lines and planes prescribed and recorded in prints and drawings were achieved in the garden of sand raked smooth, fastidiously sheared lawns, and rows of individual trees trimmed into rows. This move from what Darcy Grimaldo-Grigsby has called the “massless, timeless space of geometry” to the physical world required the coordination of labor and of natural resources.<sup>11</sup> Practitioners of geometry such as the engineer Alain Manesson-Mallet were aware of the challenges of applying theories and forms conceived of on paper to the ground, and of the “friction” inherent in such processes.<sup>12</sup> In Manesson-Mallet's 1702 treatise *La géométrie pratique*, the composition of illustrations—which consisted of a garden in the upper register and Euclidean figures below—exemplifies an ideal, that of the successful application of theory to the land. Le Nôtre's critique of the *parterre* as only enjoyable from the nursemaid's static vantage reveals an anxiety about the difficulty of “drawing” in the garden, of the disjunction between geometry's imagined planes and figures and their application in three dimensions. The whole's integrity was fragile once the synoptic view was lost and the organic, constituent parts became visible.

The notion that Versailles and other formal gardens were perfect “Cartesian” projections has been challenged in recent years, from Georges Farhat's analysis of Le Nôtre's engagement with issues of anamorphosis, to Patricia Falguières's exploration of the influence of Gassendian philosophy on seventeenth-century gardening.<sup>13</sup> Both authors take into account Le Nôtre's apparent awareness of the subjectivity of perspective and human limitation as complicating counterpoints to the “pathos of infinity.” More concretely, Farhat has called into question Charles Perrault's attribution of the Grand Canal's precise measurement to Picard's cutting-edge geodesic technology, an account the fallen administrator fabricated to valorize his camp's modern technical advances.<sup>14</sup> Perrault's position intentionally obscured the cumulative, human-scale gestures that

<sup>9</sup> Dezallier d'Argenville, 125–131.

<sup>10</sup> Carmen Bambach, *Drawing and Painting in the Italian Renaissance Workshop: Theory and Practice, 1300–1600* (New York: Cambridge University Press, 1999), 10–13; 28–32; 128–133.

<sup>11</sup> Darcy Grimaldo-Grigsby, “Geometry/Labor=Volume Mass?” *October*, vol. 106 (Autumn, 2003), 5.

<sup>12</sup> Glenn Adamson and Joshua G. Stein, “Imprints: Scale and the Maker's Trace,” *Scale*, ed. Jennifer L. Roberts (Chicago: Terra Foundation for American Art/University of Chicago Press), 32–35.

<sup>13</sup> Farhat, “Le Nôtre and the Quarrel of the Ancients and the Moderns: Optics and Perspective, Visual Art and Instrumentation,” *André Le Nôtre in Perspective*, ed. Farhat and Patricia Bouchenot-Déchin (Paris: Hazan, 2013), 70–79. Patricia Falguières, “Philosophes au jardin: une promenade sceptique,” *André Le Nôtre: fragments d'un paysage culturel*, 130–151.

<sup>14</sup> Charles Perrault, *Mémoires de Charles Perrault, de l'Académie française, et premier commis des Bâtimens du roi* (Avignon, 1759), 167–168. Georges Farhat, “Optical Instrumenta[liza]tion and Modernity at Versailles: From Measuring the Earth to Leveling in French Seventeenth-Century Gardens,” *Technology and the Garden*, ed. Michael G. Lee and Kenneth I. Helphand (Washington, D.C.: Dumbarton Oaks Research Library and Collection, 2014), 25–52.

built the canal, which was most likely measured with the gardener's prosaic graphometer and with trusty chains unfurled end to end. Even in the Sun King's gardens, one of the most impressive feats of engineering was earned through the application of vernacular knowledge and through the use of devices limited in their extent. Though smooth and shimmering in its final appearance, the making of the canal was a piecemeal affair.

Like the potentially disincorporated figure of the *parterre*, such fragmented efforts posed a threat to the integrity of the garden if revealed. If gardens are a form of intense "place-making," of the forging of a concentrated "milieu" or a "midst," as John Dixon Hunt has defined them, then the gardens of Louis XIV initially evoke a place of supreme control, one overseen by a scrupulous foreman, the gardener king.<sup>15</sup> Within this ordered place, however, resided a latent tension between the notion of Louis XIV as the lone draftsman and the status conferred by his demonstrated ability to harness multiple hands and materials. Analyzing the visibility of preparation in the festivals hosted at Versailles, Louis Marin suggested that "dissimulation of an operation" was key to the perceived miraculous nature of its result.<sup>16</sup> Such a fiction is preserved in the Sun King's gardens if we position ourselves where we are told by official guides and images: from a lofty vantage, on a central axis, too far to perceive its working parts. Once we begin to wander the gardens, however, our scale of attention inherently changes, and we cannot help but become aware of the particulate: the trees, flowers, animals, and bodies of water groomed, clipped, and cajoled into rank. And it is from this ground-level perspective that the minutest detail—a drooping tulip, an errant weed, a sickly orange tree—has the potential to interrupt the illusion of the ideal ensemble.

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<sup>15</sup> John Dixon Hunt, *Greater Perfections: the Practice of Garden Theory* (Philadelphia: University of Pennsylvania Press, 2000), 6.

<sup>16</sup> Louis Marin, *Portrait of the King*, trans. Martha Houle (Minneapolis: University of Minnesota Press, 1988), 196.



Measuring the Heavens:  
Ocular Devices and Operatic Truth in Arcadian Rome

AYANA SMITH

In November of 1680, a Great Comet visible to the naked eye, even during daylight, frightened and astonished many observers throughout Europe. As the first comet to be studied using the telescope, this celestial event garnered much speculation. Publications describing the comet, which ranged from the superstitious to the religious and scientific, displayed wide-ranging concerns about observation, perspective, and truth. In Rome, much of the resulting intellectual activity was gathered by Giovanni Giacomo Komarek (c. 1650-1705), a self-described Bohemian with a publishing shop near the Trevi fountain. My reconstruction of Komarek's catalogue demonstrates that in the wake of the Great Comet an increasing demand for ocular devices, together with a scientific emphasis on experimental method, prompted extensive epistemological debates. As circumstances caused scientists to see the world in new ways, so too *letterati*, artists, and musicians found new ways to define and represent "truth."

Komarek's publications illuminate previously misunderstood connections between the prevailing scientific and literary academies in Rome, and illustrate the pervasiveness of ocularcentric approaches in multiple disciplines. Komarek's authors—from both the *Accademia fisico-matematica*, organized by scientist Giovanni Giustino Ciampini (1633-1698), and the *Accademia degli Arcadi*, led by literary historian and critic Giovanni Mario Crescimbeni (1663-1728)—emphasized ocular devices in their publications. Ciampini's academy built and experimented with telescopes, microscopes, and the camera obscura, all of which use lenses and mirrors to shape and project images. As a result, one of Komarek's authors from Ciampini's academy expressed frustration that he "had never witnessed so many debates about truth—Patience!" Ciampini himself predicted that, with so many new objects available to human sight, there will be a demand for a new philosophy. I propose that this new philosophy emerged in Crescimbeni's academy. In their publications, Komarek's authors from the *Accademia degli Arcadi* posited theories of literary and dramatic verisimilitude based on perspective, images, and imagination. The philosopher Gianvincenzo Gravina (1664-1718) in particular posited a new theory for literary style and dramatic representation called the *immagine del vero*, the "image of truth." Since the patrons, composers, and musicians of the *Accademia degli Arcadi* created the new genre of serious opera based on the literary reform enacted by their colleagues, my analysis of Komarek's catalogue exposes a direct lineage from ocular devices to operatic expression.

In this paper, I will briefly discuss several "monuments" of ocularcentrism drawn from Komarek's catalogue. Then, I will use these as a framework for analyzing scenes involving mirrors and other ocular devices in music dramas created within the *Accademia degli Arcadi*; my examples will be drawn from works by composers such as Carlo Francesco Pollaro (1653-1723), Alessandro Scarlatti (1660-1725), and George Frideric Handel (1685-1759), who were influential in creating the eighteenth-century operatic style. In addition to demonstrating how scientific culture influenced the debates on verisimilitude in the *Accademia degli Arcadi*, this paper expands our knowledge of how late seventeenth- and early eighteenth-century opera participated in a broad culture of ocularcentrism.

## Interpreting Numbered Subjects

RACHEL SEILER-SMITH

In *Trust in Numbers*, historian of science Theodore Porter argues that numbers are “first of all...strategies of communication” that work somewhat paradoxically as “technolog[ies] of distance”: “Since the rules for collecting and manipulating numbers are widely shared,” he writes, “they can easily be transported across oceans and continents...Perhaps most crucially ... quantitative manipulation minimizes the need for intimate knowledge and personal trust” (Porter ix). According to Porter, this is precisely the “working definition of objectivity”: a “set of strategies for dealing with distance and distrust” by excluding judgment, by “struggle[ing] against subjectivity” (ix). This is a term (“objectivity”) that hasn’t really come up in our discussions so far, though it and its apparent opposite (“subjectivity”) have been implicit in many of them. It is not a coincidence I think that our modern understanding of objectivity and subjectivity—of information we trust and that we do not—is a particularly eighteenth-century phenomenon (starting in the 1760s or so). Mary Poovey adds that numbers “have come to seem preinterpretive or even somehow noninterpretive” (Poovey xii). They were not always so, and aren’t really so now.

Indeed the problem with the objectivity thesis is that quantified knowledge is still constructed, and “reality [then comes to be] constructed from [that] artifice” (Poovey xii). Despite all appearances of abstraction, Poovey insists, “numbers are interpretive, for they embody theoretical assumptions about what should be counted, how one should understand material reality, and how quantification contributes to systemic knowledge about the world” (xii). Thus, despite all attempts to divorce numbers, datas, graphs, formulas from judgment, subjectivity or ethics, the credibility and use of numbers is, to quote Porter once more, “a social and moral problem” (11).

Porter and Poovey characterize the nineteenth century (and the 1830s in particular) as a sort of turning point. The three essays before us today work backwards from that point to provide texture to how we understand numbers during the Enlightenment: not only as producers of knowledge, but as problematizations of the types of value-judgments and actions extracted from such knowledge. In fact, all three essays contend in varying degrees with the threats inherent to the unchecked proliferation of numbers *as well as* of the entities those numbers count. In Feder and Roberts such threats come in the shape of mad mothers and un(re)productive slaves, while in Sheldon they manifest via epidemic. And all three authors link these threats to different social and moral problems: for Sheldon, early engagements with political arithmetic enable writers like Graunt and Defoe to “represent modern social space” without necessarily requiring a reader to witness it in person (206); for Feder, infinity discourse is a generational point for the Romantic sublime that enables us, in post-humanist fashion, to “recko[n] with the question of what transcends the human” (177); and for Roberts, “calculating and quantifying the value, productivity and reproductivity” of slaves acts as a “rationalizing...process” for exploitation (186).

According to our authors, quantification brings legible order to the experience of urban life on the one hand, while, on the other, it thrusts us beyond coherence, perhaps beyond intelligibility, to transcend human-centered notions of life. It is a technology of biopolitics that manages and contains, witnesses and navigates particular spaces, and it is an

aesthetic of infinite space. But the quantifying spirit can don a malevolent visage, too, as planters conjure it "to more systemically dehumanize the slaves" (198-199). Despite these distinctive characterizations of quantification, all three essays, when placed together, suggest that long eighteenth-century numeration relied on three key factors: context (that is, where and when the quantification takes place), application (the interpretation and use of the numbers), and credibility (the critical reception not just of numbers but the conclusions about said numbers).

Eighteenth-century anecdotist Joseph Spence asserts that Isaac Newton, when asked about "the continuance of the rising of South Sea stock," replied that he could pretty much calculate the movement of stars but "that he could not calculate the madness of people" (368). We are encountering a moment where numerical data is more crucial than ever for staving off the madness of the people *and, at the same time*, a common target of skepticism from the maddening crowd (at times I am not sure whether I am talking about the Enlightenment or 2017). It seems to me, though, that Newton's alleged point ought to feature in our discussion of these essays: for the quantifying spirit may well take the shape of the "objective" shoulder angel of Enlightenment thought, but people's interpretive approach to numbers and quantification appear equally important to our conversations about number, weight, scale. So I want to invite all three authors to "weigh in" on interpretation—both in terms of their own methods for making sense of numbers in history and in terms of how interpretive practice plays into the records they're examining here.

And lastly, I have individual questions for each of our authors. For Rachel, I invite her to provide a bit more context about *how* "infinity" was working with Enlightenment. And I ask because while your reading of Wordsworth's mad mother is rich and fascinating, I wasn't quite sure about the connection. Because as I understand it, "infinity" applies when a quantity is so vast that it can't be counted, but both Wordsworth and mothers count *a lot*. When we do talk about crowds, masses, mobs—things that are notoriously hard to quantify—are they really "infinite" or just difficult to count? Malthus's idea of the finitude of resources does mean that the apparent infinite threat of possible population growth does, in fact, have a very finite end. I am wondering if what you are describing isn't "overflow"—and if calling that "infinity" isn't maybe problematic? For Justin: you write that "energy... humane" toward end—I just wanted to call attention to "still," which seems to be drawing a line between humane governance and biopolitics. My own understanding has always been that the technologies of biopolitics are rationalized by arguments that they "optimize" and hence contribute to the greater good, so I was hoping you could speak to that and how these planters imagined what they were doing, what sense they made of these strategies? And, finally, for Ryan: Your essay focuses on order and its centrality to Defoe's and Graunt's thinking about numbers in plague time, but I want to return to "disorder"—especially because I consider *Journal of a Plague Year* to be really remarkable in its disorderliness. Despite being confined to London and the surrounding villages, the words are really chaotic, in a way that doesn't at all match, for instance, Pepys's very methodical prose. And at another point, he writes (in a proto-Malthusian moment) that plague and fire and famine might actually be good for London. So I am wondering if government doesn't in some ways thrive on disorder. So are these political arithmeticians embracing a fantasy of order (and do they understand it *as* a fantasy?) or is there something else going on?

'Or else she were alone':  
Infinity Discourse and the Ethics of Counting

RACHEL FEDER

Through a new interpretation of Wordsworth and Coleridge's *Lyrical Ballads* (1798), a Romantic work self-styled as the first book of experimental poetry, my current book project, *Counting Nowhere: Romanticism and the Failure of Futurity*, demonstrates that infinity is the lost category of Romantic aesthetics and asks how that realization might help us understand the environmental humanities as neo-Romantic.

Infinity, now widely regarded as a stable mathematical concept (with a few dissenters), had no concrete definition until the end of the nineteenth century. Enlightenment- and Romantic-era infinity discourse, which flourished across the fields of mathematics, philosophy, and theology, took up the question of whether one could know, use, or talk about infinity at all. Was calculus a breakthrough, or heresy, or just bad math? In an era before strict disciplinary boundaries, debates about infinity, and the related concepts of counting and zero, percolated in the writings of minor theologians as in the treatises of major Enlightenment minds.

My contribution to the workshop took up the problem of how to discuss Malthus within this frame. Triangulating readings of his seminal *An Essay on the Principle of Population* by Maureen McLane, Frances Ferguson, and Mary Poovey, the paper trained its eye on the lyrical ballad "The Mad Mother." What might it mean to find Malthus's mad mother in a Wordsworth poem that is also about numerical addition? Can we understand the lyrical ballad as intervening in a discussion about biosocial reproduction among resource scarcity? I drew on fictions by both Mary Wollstonecraft and Mary Shelley to make this case.

## Policing by Numbers: Plague, Political Arithmetic, and Numerical Argument

RYAN KAVEH SHELDON

This paper examines the rise of numerical representation as a strategy for talking about social and political policy and, specifically, about the relationship between illness and urban infrastructure, in two very different literary venues: the political arithmetic study and the historical novel.

John Graunt's 1662 *Natural and Political Observations Made Upon the Bills of Mortality* is significant for three key reasons: first, because it argues for the formation of state policy in response to studies of populations; second, because it argues for the formalization of that study using the most readily available indexes of births and deaths; and third, because it attempts to historicize and critique those documents and the data they ostensibly represent. It is perhaps one of the first explicit elaborations of biopolitical thought, arguing that just as "it were good to know the geometrical content, figure, and scituation of all the lands of the kingdom...it is no less necessary to know how many people there be of each sex, state, age, religion, trade, rank, or degree," as such data allows one to see, for instance, "how many women and children do just nothing, only learning to spend what others get," "how many [people work] by fighting as soldiers" or "by ministeries of vice and sin. What begins as an effort to assess the comparative severity of a series of plague outbreaks during the sixteenth century becomes an argument about how to regulate flows of labor, track the movement of populations, and categorize persons in terms of their fitness as workers.

Numbers do not speak for themselves in Graunt's work, despite their centrality to its vision of state policy. Instead, they represent an interpretive payload to be excavated and interpreted by "numerate" individuals, who, upon evaluating and selecting the right kinds of facts and figures, can process them into necessary information about how populations move, work, live, and die. Assessing the health of the body politic becomes a matter of quantifying, aggregating, and surveilling the bodies that exist at the margins of its borders—and this project, we are given to understand, becomes bound up with the ability to read and write with numbers effectively.

Graunt does not only model what that kind of numeracy might look like. He also gives us a sense of what it *does not* look like: "Most of [those] who constantly took in the weekly bills of mortality," he writes, "made little other use of them then to look at the foot, how the burials increased or decreased." Rather than thinking about what these numbers mean in context, the casual reader takes them as a set of inarguable descriptions of public health and shorthand indicators of social crisis. Daniel Defoe intuitively makes use of this symbolic cachet in his *Journal of the Plague Year*, which builds the form of the bill of mortality into a non-fiction novel that masquerades as a firsthand account of an episode of plague. In a basic sense, the text asks us to treat its reproductions of mortality bills as a credit to its narration; if we cannot trust the author alone, the logic seems to run, surely we can trust the document. This formal bait-and-switch begins to look a bit more complex, however, when we think about the novel not simply as fictionalized history, but as fictionalized historiography—that is, as an effort to represent the recording of historical events, and

not just the events themselves, and to think about how engagements with these textual records of crisis can impact both top-down administrative policies and on-the-ground responses to them. While the *Journal* may not serve as a reliable account of plague, it tells us much about the relationship between the numbers, historicity, and policy formation during the long eighteenth century.

## Discussion

**Rachel Feder:** Sure, thank you. Thank you for all those questions. So I'll just start with a point of clarification, which is to say that I don't have an investment in a particular definition of infinity and in fact in the Romantic period and in the eighteenth century there's no definition of infinity that works, mathematically. So they really didn't have a stable mathematical definition until Georg Cantor in the late nineteenth century, which is kind of my ploy. And so what I'm doing in the project is I'm reading through *Lyrical Ballads* to look at infinity and the sublime not as two monolithic concepts but as two sort of categories for sets for formulations, of aesthetics, of divinity, of identity. And so I look at a range of papers on infinity and then I show how their formulations kind of come up in Wordsworth, and Wordsworth is a very convenient figure because he really is kind of working through all of these different philosophical influences without necessarily adhering... You know, he's not, "Oh, I agree with Hume, I disagree...." So for [Thomas] Malthus I'm really kind of—and Mal—... Okay, so I say in this that I have had a "Malthus problem" for a long time. I've been working on this project (this is my dissertation now sort of completely reimagined since I decided to do a different project first)—I've been, you know, in a relationship with this book for a decade—and everyone has always said, "Oh, you work on infinity, what do you think about this, right? What do you do with Malthus?" And I just kind of avoided Malthus and so in part I did this workshop as a way to make myself deal in some fashion with Malthus and to hold myself accountable. And in fact what I do, right, is I just kind of triangulate Malthus with Maureen McLane and Mary Poovey and Frances Ferguson, so I have this feminist shield to protect me. So you know it makes... it is what it is. And when I—so on page 178 at the top I kind of situate Malthus in contrast to someone like Locke in terms of thinking about infinity and what it means to approach infinity as a limit (which is coming from Newton but which is, as, you know, Berkeley will tell you is heretical in Newton, it doesn't really—well, the calculus is unfounded, mathematically unsound in the early eighteenth-century). So the way I make the contrast is to say, "Okay, for Locke, infinity is this sort of process that's at the very base of the pyramid. So how do I know that I'm still me? Well, it's because I was talking a minute ago and I'll be talking the next minute and my voice and my sense of self and my body all seem to be in the same place and I *imagine* I could always be myself for one more minute and then if I have sort of a belief in the afterlife and in the divine, then I imagine that even after I die I could sort of continue to have continuity." And so the limit of infinity becomes not only eternity but also identity for Locke. So the way that Locke sort of works through believing in infinity and the way he works through believing in identity are these really parallel processes.

For Malthus there are these... you know, "We're headed toward something bad, we're about to crash into this limit" ideas but, as Ferguson argues, the point of the essay is to sort of undermine the axioms of that mathematics and say, "But we can adjust, can be—right?" There's a way to avoid this, there's a way to change the trajectory. So that's how I'm kind of situating Malthus with these other people who are thinking about infinity... but I agree that calling this Malthus's investment in infinity or something like that is problematic, and I think that's part of the problem that I'm working around. Yeah.

**Justin Roberts:** A couple of things for these questions. I'm going to start with a broader question, going to give you some numbers. I came to this project—or came to what I'm discussing here—as a young historian of slavery, and as a graduate student I remember poring through long lists of numbers and punching them into Excel sheets, what this meant about productivity and reproduction rates and the exact amounts different slaves labor on different tasks and so on... And I became increasingly interested as I was going through these numbers with why I had them, where they had come from, and why they were being produced and with the categories that were being used, the ways that people were being conceptualized. I tried to do a little bit of work with that in the first chapter of my book and ever since then I've been bothered by that and returning to that, and this was I suppose some effort to sketch that out a little bit more, think through that. I started becoming much more interested in categories of cells [in a spreadsheet] and the way numbers were being used, the things we're missing, what they're trying to calculate. And so that's kind of a broader question.

So I'm really coming at this as someone who once used numbers unquestioningly as a way of understanding what's happening on the ground in slave plantations—I used them to argue in more detail than anyone has ever done. Now I say, “Well, I'm not sure what exactly what I'm understanding,” because I started becoming very concerned with parodying the planters on some level ... that I was actually sort of becoming ... that I was coming to the same conclusions that they were doing, as if I was working for them and analyzing their own data—and that's a bit of a problem for me! So I still think I found out quite a bit about sugar plantations and how they work but I keep wondering, “To what end?”

As far as individual planters and their conceptions of humanity... I spent years reading through the business correspondence of plantations, the agricultural advice literature, [and] one of the things that struck me is that there was some talk in the Caribbean context about the “amelioration movement”: these sugar planters responding to abolitionist protests by saying: “Well, things aren't that bad in the Caribbean; the abolitionists are overblowing this, overplaying this, and we're making efforts to improve the situation and mitigate the violence of slavery” as if that's ever possible. And they would say this and they would also talk about how those increasing abolitionist protests and they'd realize that this was coming to an end and they would need some way of replacing their laborers because they were killing them off faster than they reproduced.... One of the things that was going through all of this was that much earlier, around in the 1740s and 1750s, in the business correspondence and the published agricultural literature I started seeing both internal and more public discussions of how slaves should be treated and visions of the master/slave relationship that were very different from what I was seeing earlier. And I was struck by how often the words [*sic*] “humane” were being used and personally recoiling, as “This is madness! What are you talking about? The sugar plantations was [*sic*] a violent worksites in the Atlantic world. How can you talk about being ‘humane’? How can you talk about being ‘benevolent’? How can you talk and use words like ‘fair’ and ‘just’ and ‘benevolent’ and ‘these are your children, these are your dependents’?” And I never quite know what to call that, and in my book I call it “amelioration.” I've been working on another article with a colleague of mine now and we're trying to connect a little bit to the older idea of paternalism as in U.S. historiography. We're not quite sure what to do with it; it's there and historians haven't talked about it before, and it doesn't



really seem to have a—well, it's tricky to say if it has much effect on plantation management. Clearly these slaves are still being brutalized, malnourished, overworked, destroyed, but we're not quite sure what these planters are doing with it and why they're so insistent on saying it not only to each other and not only to their staff, but on a larger public scale. I really think that this is not just a gloss to defend their monstrous actions. I mean, their actions are monstrous, but for them I think they really do envision themselves somehow as being these enlightened, genteel, "humane" managers, and I can't figure out what that is and what their concept of humanity is.

So one of the things I was looking at here was I was starting to realize that for them the measure of humanity is whether or not slaves are reproducing or how quickly they're dying, and that's all it has to do with. And so they can sort of develop technologies for assessing their humanity as managers, but then this is also very self-serving because of course it's their property. This is the capital stock of the plantation and they are escalating slave prices... you know obviously it's really problematic. So I don't know what to do. I'm at—and on some level, I want to keep exploring it, but on another level I'm just horrified by diving into some of this material and seeing as I've seen on the ground how brutal these conditions can be. kind of a diary Thomas, this overseer, and that sort of thing, you know, this brutalization of slaves and thinking about these distance managers saying, "Well, we're doing wonderful things," you know? I've certainly looked at ... One sort of classic example I'll leave off with is Nathaniel Phillips who writes to his plantation manager in 1789. He says, "How are my black friends doing? Tell them 'howdy' from me, and I'm sending some presents for them from London." The manager writes back and he says, "Your black friends say 'howdy.'" They're working very cheerfully. They miss you, and they were very excited to see their presents." And I thought, "This is just—this is absurd on so many levels. How can they be saying this? This is—"... One of the ways they kind of sketch this out—and I think one of the conclusions I've tried to cover in this paper—was this realization that there's this emphasis on humanitarianism that was being espoused at the expense of the individual, right? So the individual is somehow disappearing in these planters' visions of what it meant to be humane, and I was fascinated with that.

**Ryan Sheldon:** So I want to come back to those two final questions that you asked but I sort of want to try to build off what's been said already, especially on the question of humanity; that's sort of something that's come up a few times even in this panel. And one thing to consider—and this is something that those of you who are French historians or Americanists can probably answer better—is to sort of think about where we get the notion of human rights, because you have someone like Lynn Hunt saying, "You don't really have human rights until the American and French Revolutions." And so thinking about that...—and this is sort of, I'll try to go back to political arithmetic via this route—this is one of the things that I became interested in. [*to Rachel Seiler-Smith*] I don't know if you're interested in this? (I just found out that Rachel and I have like at least twin chapters, we might have twin dissertations.) But one of the things that's really interesting is that you have these situations where people are being counted as persons or bodies but we're in a political window for much of the eighteenth century where they're not, they don't necessarily have human rights (because those aren't theorized yet). And so a lot of history and statistics tends to focus on the nineteenth century; you know, Ian Hacking

loves that window in the 1830s when he's talking about this avalanche of numbers that was produced, but we have these single instances where numbers begin to be applied to people. You start getting the transference of actuarial and commercial logic onto—or the development of actuarial logic via the transference of commercial logic—onto social questions. And so ... you know, there's a way in which a lot of the history of statistics elides this large moment *where you have people being counted before they are human beings*. That's sort of one reason why I think it's important to focus on political arithmetic, which is sort of this overlooked discourse that's sort of appended to the beginning of political economy.

But as for the question of disorder, I think that's right, and that comes back to this idea of interpretation. And if you think especially about someone like William Petty, whose argument for political arithmetic is that you're using a system which doesn't involve communication, it doesn't involve rhetorical strategy to evaluate by weight or number or measure. So his goal with this entire sort of mode of political reason is to create a system that's ostensibly perfectly rational, that doesn't involve affect or rhetoric or persuasion. But it's really, really dubious because as Mary Poovey elucidates, that's a really rhetorical claim: to say that the numbers are value neutral and therefore they're argumentatively superior. And so to come back to Malthus because, yeah, Malthus is sort of bookending my project with Graunt, and I think that there is a connection between the two of them and I was sort of struck by this line in Rachel [Feder]'s paper—it's on 178—or this phrase—“Malthus simultaneously extracts and abstracts mathematics from real-world scenarios and sinks mathematics into human animality,” which I think really does capture... and Graunt's up to something similar. You know, with his case he's saying, “The bills of mortality aren't going to capture the reality of plague on the ground with total accuracy, but they're good enough; they provide us with a basis for doing calculations that enable us to assay the population, for instance.” And Malthus is doing something similar where he's sort of mapping this geometric/arithmetic dyad onto the situation of subsistence and saying, “Well, you're gonna have a population that's expanding faster than food infrastructure, you know, it can do, and that's a huge problem.” And I think that what's interesting in both of them—and particularly interesting about Graunt, who's, you know, working in the seventeenth century—is that he's able to identify a redundant labor population. So there's this moment where he reasons that it's actually more cost effective just to pay beggars to go away. Basically to get them out of the street, because, you know, working them or incorporating them into an extant labor structure just makes the labor less efficient. And so it's worth just sort of giving them a basic income that allows them to sort of recede. That's not a Malthusian take as a political strategy, obviously, but I think that identifying—the identification of sort of a surplus population in the seventeenth century—is really interesting on Graunt's part, and it does sort of take us back to Malthus. So that's what I'll say about that.

**Sarah Knott:** Lovely. It feels like the perfect moment, actually, to start talking about the non-enchanted numbers, actually; [inaudible] I think this is the panel (to my mind) that most explicitly helps us answer the question, “What does the eighteenth century *teach us* about the digital humanities or about temptations of numbers in our present?” And it asks us to be more skeptical, perhaps, than any previous panel. So I actually wanted to pick up on the numbers talk in the eighteenth century in Justin's work, because those are the ob-

vious records we have—right?—for thinking about the eighteenth century. And I wondered if... —I wanted to think about the ways in which the social history of slavery, right?—a social history that is grounded in eighteenth-century slave narratives and early 1930s WPA narratives—so social history of slavery to speak back to both the records that you are critiquing and the contemporary stance that you have adopted to critique. Right? So it's can you use them both to speak to those records and your stance of critique for the present day? To be more concrete about that: those wonderful tables—wonderful?!—those *astounding* tables of increase and decrease, you describe as being about reproduction, right, and that seems right—I mean, it seems to echo our understanding that slavery was about production and reproduction and about assets, right, which is shown in these sources. But I think part of what those records elide are the many other forms of care that were sustaining these slave communities, right? So a social history of slavery might ask us to think not just about birthing and not smothering your child, right (in that one amazing image you showed us), but also healing practices, right, and all the women on estate plantations taking care of the children, raising those children who've been birthed. And so I think there's a way in which you can use that social history literature to talk back to these records even more powerfully than you already do. And then the second part of that would be to observe that in some ways the analogy you draw out between the planters' failures to individuate their slaves and their propensity for describing their slaves as these organic masses, part of what that misses is an interim conceptualization that at least these slaves had, which was the enormous importance of families, right? And that social history literature would say "How do these slaves want to narrate themselves? They want to narrate themselves as parts of families that were torn apart, right, torn apart in West Africa or torn apart by being treated like assets, and that individuation itself was a problem, right, that the individuation is the move of the slave owner." So there you go.

**Roberts:** Yeah, that's interesting, and there's so much to say there. I feel like I could talk for a good half an hour on this, but I'll start with the social history of slavery. And one of my colleagues said to me recently—she's a twentieth-century Canadian women's historian—and she said "It strikes me that every time I see you talking about slavery and the people I see you bring here to speak: they're obsessed with the details and the numbers and exactly, you know, the size of slave houses and how much they're eating and exactly how much they're working." There's something about the history of slavery that's still very connected and deeply entrenched in—cliometrics is one way it's been described—it's deeply entrenched in the kinds of social history we were discussing yesterday. That 1970s social that hasn't left slavery entirely, particularly in the Caribbean context. I think it's almost being reinvigorated a little bit with this "new history of capitalism" in the nineteenth century U.S., where people are beginning to use those kinds of numbers again... And a different, a different "semantic" approach: they're more, they're emphasizing more sort of violence and exploitation, but they're still using those numbers, and uncritically in a lot of ways we see, you know, and I guess part of the problem is that when it comes particularly to the Caribbean, the slaves themselves leave no records. There's not a single surviving firsthand account from a slave on a sugar plantation anywhere. At all. There are seven surviving accounts of slaves from the Middle Passage. And so on some level in order to understand *their* experiences we are forced to move beyond these rare and individual slave narratives that we might see from the nineteenth cen-

tury or those very problematic set of 1930s WPA records—and particularly in the Caribbean context we can't use those at all—and we have to ask these kinds of questions: “All right, what is the standard experience for these people?” And we have to make those really speculative leaps that almost require different standards of evidence in the history of slavery: if you want to uncover the history of these people you have to start imagining them on the ground. And I think one of the most productive and interesting elements maybe—hopefully—in all of this is that there's been an interdisciplinary merging of archaeology and history in the Caribbean context. So historical archaeology has become very important in the study of slavery, to try to get at slave experience. But of course again we can't really ask those really interesting cultural history questions. It almost seems like we're *mired* in a social history and we can't move beyond that for these people. And what we're left with of course is this really troubling problem that if we want to understand slavery at all, we have no choice but to go to plantation owners. If we want to understand the sort of the experience of these people, because that's the only records we see surviving—maybe some travellers' accounts, but no one really seems to pay any attention, until slavery starts getting critiqued at the end of the eighteenth century and then you get reform-minded people coming in and paying attention. But for the earlier period in particular we have virtually nothing. One of my colleagues was pointing out to me recently this sort of passing observation published in the *AHR* by Jack Crowley about how there were no eighteenth-century *visual* depictions of slaves working on plantations.<sup>1</sup> None! It's completely effaced; no one paid any attention to this. It's only in the nineteenth century, post-abolition, you start seeing some of that. So there's some interesting problems there, [and] I'm not sure what to do about it. Does that answer some of your questions there? Was there something—

**Knott:** It does... Although I just think that there are other parts of scholarship that you can use to thicken your critique—the critique is nail on, no one's going to dispute with you that these are dehumanizing documents—but it seems like there are many points of access that might help you hone and demarcate what these records are and are not.

**Roberts:** Right. Right. And as far as your comments about healing practices and other ways to sort of encourage reproduction, I think there's this interesting convergence at the end of the eighteenth century of slave values and planter values that you don't see before then. Because at the end of the eighteenth century the planters become very interested in keeping children alive and having slaves reproduce and the biggest part of that is because the price of slaves rises so rapidly at the end of the eighteenth century, there's a specific point that economic histories identify at which it becomes cheaper to raise a child than to simply buy a slave. And at that point you do start seeing a lot more emphasis on amelioration, and so you see pro-natal strategies and so on; that's when there's a real attention to trying to keep these populations alive and to, for example, exempt enslaved doctoresses or nurses from other kinds of labor. So as I'm looking through plantation records I'll see someone whose task or whose job is to be a doctress, and it's this tantalizing little reference and you think, “Oh, well this is remarkable because they don't have necessarily a productive role anymore.” Their role year round is to treat other slaves and I don't see

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<sup>1</sup> John E. Crowley, “Sugar Machines: Picturing Industrialized Slavery,” *American Historical Review* 121:2 (2016), 403-436.

that in the records earlier... so there's something going on there that's really interesting in terms of production. And say the other point of this—and I said this to a colleague of mine recently—"You know, there's some historiography of ameliorations." She said, "Well, some of this might have worked because the slave population decline isn't so rapid at the end of the eighteenth-century, so there may be some efforts on the part of planters." And I increasingly think that's a lot of horse shit because I think maybe what's going on is slaves themselves are learning their own survival strategies. They're becoming a Creole-ized population. They're building networks on the ground; they're developing knowledge for keeping themselves and their families alive increasingly in this context, and we don't give enough credit to that. So we talk about the agency of the enslaved [and] I think that's what we're seeing. And it's an agency that supports the planters' goals of amelioration, but we're not paying attention to it, and I actually think that feeds into productivity levels as well. So Trevor Burnard and I are going to be co-authoring a paper on this, and one of the things we want to talk about is how there's an increase in productivity over the course of the eighteenth century in slave plantations, and one of the things that's going on isn't necessarily increased violence; there are other measures at play, one being these technologies of surveillance. But another is that this Creole-ized, enslaved populations are becoming more productive workers... for whatever reason. And that might mean that they themselves are learning how to improve their own health to be able to produce more each day, or they're not becoming sick quite as often or—there might be some aspect of that... But I don't necessarily think it's planter-driven; I think it's coming from the ground up, and I'm not sure what to say about that. We're sort of working on the early stages of a project like that, yeah. Does that answer your question?

**Nick Valvo:** I have a hook. To speak slightly embarrassingly in my own name a little bit, I'm wondering... You mention this very striking vocabulary of amity, of like amity and so on in planters talking about their slaves with their employees, managers... And I wonder, we tell this story—and of course Chris Brown's book is so important on this—we tell this story about sentimental anti-slavery, but it's always important to remember that there's also a sentimental pro-slavery in the eighteenth and nineteenth centuries. And that there's this way that I feel like—and again, to slightly embarrassingly speak in my own name—that the account of sentiment (if I'm right about sentimentalism and it's about separating, purifying the humane from the instrumental and thereby constituting them)... I'm wondering if there's something about appropriating this vocabulary of humanity for, you know, a pro-slavery project and [if] there's some sort of aesthetic interaction there that you could then see in like, I don't know, a plantation novel from the 1840s or something that... I don't know, I've never read all that stuff, but I know it's there. I don't know anything about that.

**Roberts:** Yeah, I think you're right, and one of the things that's always struck me about this is that they're using the same Enlightenment language that the anti-slavery reformers do at a later point. So—and Christa Dierksheide has written a really interesting book about this recently where she says, "Look, this whole notion of ameliorating and reforming slavery, it has anti-slavery and pro-slavery wings, but they all have the same intellec-

tual roots and intellectual origins.”<sup>2</sup> And so all of these people think they’re somehow improving humanity and the question is how does that improve humanity (by maintaining slavery and keeping hierarchy and maintaining discipline, if that’s the route to improving humanity)... Because at the heart of the Enlightenment is this emphasis on discipline and on how the unenlightened will never be enlightened without discipline and keeping them under wraps... You know, so there is a sort of deep hierarchy behind this. So I think you’re right, I think that’s there, and one of the things that struck me when I tried to do more of my own work is that that’s there for Caribbean planters before the anti-slavery movement really takes off and it’s something they’re developing independently.

**Valvo:** So maybe the appropriation would be from them?

**Roberts:** Yeah, yeah, that’s one of the things I’ve wondered. So I argue in my own work that what they have is they have in the 1740s and ’50s an improvement movement that’s about improving the entire plantation, including the livestock, the people, the productivity... everything. And they’re convinced that moral, social, and economic improvement are all one and the same, that that’s the key to keeping these people disciplined and civilized and they’re rationalizing slavery as keeping them working, and that can be done morally. And they keep saying in all their plantation manuals, “Humanity is not inconsistent with discipline. Humanity is the route to profit.” And so there’s something going on there. And then what happens is when the anti-slavery activists come in (in the 1770s and 1780s), that amelioration talk is transformed and instead of being about the improvement of the plantation as a complete, organic structure it becomes about the reproduction of slaves. Yeah.

**Seiler-Smith:** John?

**John Han:** Yeah, so I fear that I’m going to do the sort of “How does  $x$  have an impact on  $y$ ?” thing—and in mathematical terms, which makes it far worse— ... But through all the three papers it seems like the concepts “limit,” “infinity,” and “tipping point” seem to be lurking around in there somewhere and just in a purely mathematical vein. And I thought Ryan’s paper—I really enjoyed the paper—the line where you talked about how numbers have a descriptive value that words do not... I’m wondering the extent to which you’re all talking about the *failures* of number, and maybe a different way to talk about it instead of arithmetic is ... instead of geometry, calculus. Like, the limit as  $x$  approaches—and this is to borrow your [Feder’s] term—infinity. I got that, I don’t remember the fucking derivative equation.. but it seems like by using that kind of metric, that kind of system it creates a way to narrativize numbers, right? It’s kind of like the graphs you [Roberts] see. It’s not numbers on tables like that you show in your weird sort of charts... And in terms of infinity I’m just wondering the way that—at this particular moment, it’s all talking about crowd control, and the only mathematical way that I can see to come to grips with it is not arithmetic/geometric but rates of change, right? It’s that asymptote and that tells a story. Like, when you saw all those various graphs and the next thing, it narrativized—like, numbers can be narrativized with the existence of this imaginary number

<sup>2</sup> Christa Dierksheide, *Amelioration and Empire: Progress and Slavery in the Plantation Americas* (University of Virginia Press, 2014).

that we call infinity that allows numbers to have some sort of semantic structure, theoretically.

**Feder:** Yeah, totally. And that is how, I think that's exactly right. But it's also important to remember that in the eighteenth century and the early nineteenth century, calculus has a very different status than it has now. So one thing that I talk about very early on in the book is this idea of "the fluxion" that you have in the calculus, which is this placeholder. So later, you know, late in the nineteenth century once you have a stable mathematical definition of infinity, then you can take this sort of idea of fluxions out and have things go to zero and other things go towards infinity. So when one thing approaches... You need infinity to get to zero. So when one thing approaches infinity as its limit and the other thing will kind of follow it, it will become relatively accurate. But before you get that, before it gets built... so calculus is kind of like the castle in the clouds and then with mathematical analysis they're building the foundation all the way up to the castle. ... (You know, it's late afternoon, that's a terrible visual; but...) So until you have kind of the development of the analysis you have sort of instead ... you have these things called fluxions, which are things that can kind of just "flux out." And, attacking Newton shortly after his death, Berkeley calls these "ghosts of departed quantities." He did not like them. I think though... So my answer is not an answer exactly to your bigger question, but this idea of limits that we have now is a very different proposition and sort of category.

**Sheldon:** I mean, so one thing that I want to sort of... to think about especially in the late seventeenth century context is kind of—I think it's a direct quote from your introduction to the Workshop, Rebecca —"to talk of numbers is to talk of signs," and thinking about the significations of numbers in the seventeenth century is really weird and really difficult. And this is another one of Poovey's great arguments is sort of historicizing the emergence of numbers as recognizable cultural artifact, not just for mathematicians. And it's something that comes about through the innovation of double-entry bookkeeping. And so before that you have numbers which are associated with things like necromancy and are greeted with tremendous superstition. And so one of the things that's interesting to me about Graunt and his account and the moment of his account is there's this sort of transitional period where numbers are beginning to be sort of normalized as a mode of representation, but it's also a moment in which most people don't understand them, and, yeah, most people are not proficient in basic arithmetic. And you have the production of textbooks, which are designed to help you do this, but they work based on examples. And so you get people who, you know, can do a particular problem that they've practiced, you know, ten times or whatever, but they don't understand the principles. So if you are not a mathematician and you're not a merchant the odds that you understand this are very limited. And so one of the things that's interesting to me, and this comes through Pepys [and] I think it comes through in Defoe and he sort of plays with it strategically is the way in which numbers are supposed to be and are sort of culturally understood to be, you know, translucent in that they represent an account effectively, but they're also sort of, you know, at a very visceral level kind of opaque.

And so you have, I think, in the *Journal of a Plague Year* and in Graunt's account of what the bills of mortality do for most readers, a kind of, yeah, a sort of unstable semiotic force to number. They work as signs; they don't necessarily convey information in per-

fectly comprehensible terms for most people even though they're supposed to be doing that, because they're so integral to this accounting system that has theoretically made bookkeeping possible, even if most of that is performative.

**Han:** Right, and I think that—and I don't mean to historicize calculus into your account—the chart, the inset of mortality, like, at one point you talk about how he lowballs the numbers, like, “Well, it's good enough that it's this amount to get the effect of response.” And that seems to be a moment where it's like, it's more the area, it's more the rate of change than the geometric line that can be a little bit fuzzier, abstract.

**Sheldon:** Yeah. It's like you're looking at a curve, right? Yeah, even if you can't calculate the derivative at a particular moment. Yeah, so for Defoe it's his—or rather, for H.F., Defoe's narrator—the line is like, “The official statistical record is always lowballing me and because I know there's this problem with the composition of the bills I can provide a *reasonable* estimate. Right, I can use reason to adjust the number.” So it's not necessarily mathematical, but it's this point where you sort of apply reason to this new emergent vocabulary. So yeah, calculus is sort of a nice way of thinking about that. But yeah, Rachel, as someone who actually understands calculus, I don't.

**Feder:** But you don't have to understand calculus in this period because calculus is an unfounded theory. That's what they think in the period. It worked.

**Richard Nash:** Can I hook onto that? Because there's no stronger Whig history than the history of mathematics and especially this history of calculus. And I just want to say that—and I don't argue this too heavily because I know he's a very small figure about whom I have way too much investment—but the companion to *Mathematical Principles of Natural Philosophy* would be *The Mathematical Principles of Christian Theology*, the second half of which is on quantifying uniform pleasure infinitely increasing. It's about quantifying the infinite and [its author John] Craigie additionally wrote for his cousin George Cheyne the second half of *his* book, which is explicitly on comparing infinities.<sup>3</sup> And there was a discourse surrounding Newton, among Newtonians of those who were attempting to deal with the question of how you can arithmetize the concept of infinity prior to the set theoretical notions and the limit theory that comes later that makes Cantor work. And so there is a discourse there... but it tends to always get erased as “Berkeley dismisses the concept of infinity and then we have to wait for Cantor,” but there is a tradition in the eighteenth century that I think would be worth recovering.

**Feder:** That's what my book is doing, so that makes me really happy to hear. Yeah, I call that “infinity discourse,” and I think that while we have a really strong investment in intellectual history—and maybe this goes back to your comment about questioning number and questioning math and the sort of patina of objectivity—we tend to lose mathematical history because, from the perspective of mathematics, mathematics is real and true and pure, and so calculus was real even though we didn't know why it worked. Right? The fluxion theory kind of placeholder: Newton never tried to prove that that was mathemati-

<sup>3</sup> *The Philosophical Principles of Religion Natural and Revealed*, 1705 (Part I) and 1715 (Part II).



cally sound. He knew it wasn't mathematically sound. It was a placeholder notion that did the work that infinity would do in the calculus when later people figured it out. Right? So there's this kind of "evolution of knowledge about mathematics" idea in mathematical history that kind of takes as axiomatic that math is of the world. Right? It's real; it's of the universe. And so the various sort of interactions of these debates got erased. But for me, from my perspective as a Romanticist it's incredibly important to recover infinity discourse, to recover this discourse field, because it's still all too common to think about something like the Romantic sublime as sort of this rupture or eruption that pushes back against the objectivity of Enlightenment thought. When in fact various formulations of the Romantic sublime are just sort of the latest incursions into infinity at this point.

**Seiler-Smith:** I have Mary, then Brad, and ... is it Mike?

**Mark Vareschi:** Mark.

**Seiler-Smith:** Mark. Mary?

**Mary Favret:** I think I have a question for the panel, but before that I just want to ask Justin about the Humane Society. I just think the humane treatment of slaves might be like the humane treatment of animals, you know, that there's no discontinuity between that notion that we're treating our animals to mainly atone for our sins. I'm just wondering when that understanding of the treatment of animals as a humane practice emerged?

**Roberts:** They're concurrent. Well, they're not quite concurrent, but they're close.

**Favret:** Yeah, so in that sense ... it's not surprising at all to hear them talking about the humane treatment of slaves as they treat their pets and livestock "humanely."

**Roberts:** Yeah. It is... once you start really getting into the records and start seeing these planters trying to figure out how little food they can feed their slaves and how much they can keep them working, you get down to the plantation level and realize how often these slaves are being raped and abused and beaten and families being sold apart. Just this disjunct for me is so remarkable, and I don't think it's even just me coming from a modern liberal perspective, but I think it's a disjunct they would have seen. I think part of what's going on is that these plantation managers are distanced from their own slaves and it's very easy to start talking about, "I'm a humane and benevolent manager." These owners are increasingly absentee; they're writing from Britain to their managers, although what's interesting about that is Genovese's old argument about paternalist ideology for slavery stories insists that the whole rise of paternalist ideology for slaves—to be more benevolent to slaves and stress reciprocal obligation between slaves and masters is predicated on a close relationship—that that's what causes it. That when masters are around their slaves all the time they see the humanity of their slaves and thus become more paternalist. And I decided that's horse shit. I think what we're seeing here is a very interesting Caribbean variant where the greater the distance the more they'll talk about these concepts.

**Favret:** Yeah. But my question for the panel—and I think this goes back to Rachel’s initial remarks that there’s an assumption that numbers are necessarily dehumanizing, abstracting, blah blah blah—and I’m wondering if maybe we’re too quick to go there and if there aren’t moments when (rhetorically and otherwise) numbers actually are quite effective in humanizing or reminding us (or I should say “me”) of mortality. And so I go back to the Wordsworth and I’m glad to have an occasion to talk about meter because for a poet it’s not the same thing. When a poet starts talking about numbers, you can’t separate that from the particular mode that he’s wielding and he’s gonna call Poetry “writing in numbers.” Right? It is always magical to them. It is a form of measure and Wordsworth will theorize on this and there’s a way... So “The Mad Mother,” if you go look at the stanzas you’ll see it has a perfectly even meter. You know? So the numbers of that poem are absolutely regular, right, and tied to human breath. So we’re back to the *tactus*, you know, in a sense, from yesterday. So I think about that, and then I also think about when numbers are written as words (as opposed to given to us as numerals) right, and whether there isn’t a semantic difference between when numbers get mobilized one way or another. So it’s a general sort of question that, you know, maybe numbers aren’t so bad or evil? But also an invitation for you, Rachel, to think about how poetry has its own relationship to number that might impinge on just reading *about* numbers.

**Feder:** Yeah. Well, in counting systems... You know, in *The Lyrical Ballads* counting systems are really bad news, and sometimes counting systems are an incredibly powerful way to assert power in a world in which the figure lacks power. So I think that “We are Seven” is the best example.

**Favret:** “The Last of the Flock” too.

**Feder:** “The Last of the Flock,” yeah, absolutely. So in “We are Seven” you have the argument between the man who’s traveling and the rustic girl he encounters about how many kids there are: Are there five or are there seven? And she wins the argument. And so, yeah, I agree with you. I don’t think that numbers are inherently dangerous. I think they are valued. On their own they’re value-less... but by looking at the long eighteenth-century roots of the way we sort of categorize information, particularly in something like the digital humanities, I think we see that they are based on a smaller worldview. It’s a very broad, diverse time.

**Brad Pasanek:** She doesn’t win the argument; she distorts the last stanza. She gets a couplet in, right?

**Favret:** He’s just “throwing words away”—that’s what he says.

**Pasanek:** But you don’t get the valid sense that it’s just a couplet jammed in.

**Tim Campbell:** Does everybody know “We are Seven”? So five of them are alive and two of them are dead. Right? So she’s doing the columns but she’s also insisting on both the columns are actually one column. She’s not counting incorrectly; she’s classing them.

**Feder:** Right, yeah so I mean, in my book I think about sort of the ways in which the environmental humanities are looking at the Romantic or Romanticists as what my colleague calls “Enlightenment hangover,” right, revivifying the discourse of the person. In my reading of “We are Seven” in the book I think about it in terms of object-oriented ontology. And so those bodies are in the ground and so for the girl they’re still there, whereas for the man they’ve sort of become objects that are no longer people. And so it helps to do it ... when you’re counting you’re always thinking in categories.

**Favret:** But can I just say: When you say “the way we use numbers,” what if “we” are poets? The notion that we are all political economists and always, you know... So I’m just thinking about that “we,” and maybe some of us use numbers differently. Some of us aren’t always, you know—

**Nash:** “We are five plus two” scans differently than “we are seven.” [laughter]

**Favret:** Yeah, exactly. But I mean: I think it’s really important to recognize that there are other ways that numbers are alive and move us and, you know, can be....

**Michael Gavin:** Yeah, the idea that numbers are, like, objective? I don’t see how you can work with numbers and still sustain that as even a useful straw man.

**Nosh Powell:** Have you met any engineers?

**Spang:** [aside] Says the woman from Purdue.

**Gavin:** Why?

**Powell:** I have an answer; do you want me to answer? We’re having a battle at the graduate level of my school [Purdue] right now because we have done some good studies and we have data that suggests we need to raise the minimum TOEFL scores in a particular way for international students to guarantee that they come out of the graduate degree with job-ready skills. You know, essentially we had people who were coming in and don’t speak English and are not acquiring English over the course of their education and then, you know, graduate here and then speak no English. And we’re getting strong pushback from a particular engineering department who maintains that engineers don’t need words, they “math” at each other... And they’re very, very—I’m paraphrasing, she didn’t actually say “math at each other”—but this has been going on all year and they’re very set that, “No, it is not necessary.” Like, yes it is. So I would dispute that there are people who work with at numbers and think that that is its own objective language, in and of itself. Although... that’s not the hook I had, actually.

**Seiler-Smith:** But we have a hook on *that*....

**Bret Rothstein:** There’s a distinction that still gets struck among the engineers and mathematicians that I’ve met in the last few years and that comes from people like Pacioli and that’s the distinction between things that are invented and things that are discovered, and

for a lot of those people entities that we call numbers or numerical or mathematical are frequently qualified as “discovered”: they pre-exist the human observer and somehow are absolute. I mean, I see your point... but I think there are certain subcultures where the number is somehow objective.

**Seiler-Smith:** Interestingly enough, that’s the seventeenth-century definition of “objective.” To be “objective” is when something exists on its own in an external way, and that developed in the 1760s to 1830s to be what we now know to be sort of “objectivity” as something for sure.

**Powell:** I’m sorry to go backwards because I had one hook earlier that went to Mary [Favret]’s comment, and it’s just—this’ll be brief—I, because of the squirrel thing (which those of you who follow me on Twitter are aware of) I have some information at hand about the animal cruelty stuff which is [that] you’re essentially correct. You don’t start seeing organized pushes for, like, legislation until the 1770s and you don’t get any actual legislation ’til the 1820s, and at that point initially it’s really sporadic, the stuff we’ve seen in the eighteenth century, but initially it’s all about livestock. The first anti-cruelty act was Cruelty Against Cattle—Cruelty Against—Something Something Cattle Cruelty Act,<sup>4</sup> and then there’s one that follows in the 1830s about livestock more generally,<sup>5</sup> and you don’t even get to, you know, the Anti-Vivisection League starts picking up, and so you don’t start getting wide, right, anti-cruelty legislation until, like, in 1845<sup>6</sup> and then more powerful in the 1870s<sup>7</sup> and it carries on even later. But the legislation was very much about animals used for livestock and for scientific purposes. The idea of kind of, like, preventing cruelty to pets is just not there. And very rarely, at least in the eighteenth-century, do accounts of cruelty to animals focus on an individual pet. So they’ll kind of take us back to this issue of numbers; it’s more like the vast, you know, scores of cattle being mistreated [and] not, you know, Betsy’s squirrel being flung into the fireplace.<sup>8</sup>

**Favret:** Well, and just to say that “humane treatment” isn’t about treating the object as if it were human. Humane treatment is reassuring myself that I am human in my treatment of this creature.

**Roberts:** That’s interesting. There’s a thing in the plantation advice literature of the 1740s and 1750s you start seeing improving planters say, “Treat your cattle the same way you do your slaves.” So treat your slaves humanely, but treat your cattle just as, you know, kindly: don’t lash them, feed them well, give them rest and so on. And the comments will echo exactly what they just said about slaves. They’d begin with slaves and say, “Everything I said about slaves applies to the cattle too—do that.”

**Feder:** Can I jump back into a different part of Mary’s question? I was just thinking I should have said—I think I said in my head, but didn’t articulate—which is just that the

<sup>4</sup> The Act to Prevent the Cruel and Improper Treatment of Cattle, a.k.a. Martin’s Act (1822).

<sup>5</sup> The Cruelty to Animals Act (1835).

<sup>6</sup> An Act for the More Effectual Prevention of Cruelty to Animals (1849).

<sup>7</sup> An Act to Amend the Law relating to Cruelty to Animals (1876).

<sup>8</sup> See Eliza Haywood, *The History of Miss Betsy Thoughtless* (1751).

poetic question to me... the book has become a book about *Lyrical Ballads* because ... because I think this is the first book of experimental poetry in the modern sense.

**Favret:** He says: “These are experiments.”

**Feder:** Yeah, so of course not to say that prior literature is not experimental, but yeah, the ways in which they’re kind of experimenting within the poems is very much part of the inquiry system.

**Vareschi:** I have, I hope, a teeny tiny question. It’s about Locke and infinity.

**Feder:** I can probably answer it.

**Vareschi:** So you suggested a parallel in the theory of infinity with Locke’s theory of identity, but of course the critique of that theory of identity has been that it’s finite. So we think of Thomas Reid’s “great soldier” paradox. So a boy’s whipped at school. He grows up to be this brave general who captures the flag. If he remembers being whipped he’s the same; if he forgets that he was whipped, he’s not. This is the paradox. ... So that suggests that there’s a way to understand Locke’s theory of identity as very finite, and in fact we could go back earlier in the essay to his account of memory, which is the basis for the Lockean theory of identity. It’s something that goes away, it’s, our memories are “laid in fading colours,” he says at one point,<sup>9</sup> and then he gestures at the possibility that amnesia upsets the entirety of the spirit of identity. So how do we get to infinity?

**Feder:** So, I mean, infinity—identity’s a thorny problem for Locke because you have to account for all sorts of things: talking parrots; what about when you’re drunk?; what if you’re in someone else’s dream?; what if you amputate a limb? You know, there are a lot of sort of caveats, right, to identity for Locke. So, I mean, I think that it’s a very messy, thorny topic, and I would never try to sum up exactly what Locke thinks identity is. There are two moments in the essay that I really wish I had in front of me that... I’ll try to sort of do them from memory, one that has to do with how you come to believe in infinity and then a sort of parallel sentence about how you come to believe in identity. And I think the latter is something like, “Identity of man consists in”—

**Vareschi:** “—in the continuity of the self-same thinking thing at”—

**Feder:** “—successively united to the same body.” Or something like that.

**Vareschi:** “different times and different places”; awareness of the same consciousness.<sup>10</sup>

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<sup>9</sup> Locke, *An Essay Concerning Human Understanding*, Chapt. X, Section 5

<sup>10</sup> Actual quote: “This being premised, to find wherein personal identity consists, we must consider what person stands for;— which, I think, is a thinking intelligent being, that has reason and reflection, and can consider itself as itself, the same thinking thing, in different times and places; which it does only by that consciousness which is inseparable from thinking, and, as it seems to me, essential to it: it being impossible for any one to perceive without perceiving that he does perceive.” Chapt XXVII, Section 9

**Feder:** And so this kind of maps onto, though, onto the way that Locke formulates infinity, which is to say, “You count, and then you realize you could keep counting, and then you realize you could keep counting, and then infinity kind of”—I don’t have the quote in front of me, but it sort of rises up for you as something you can’t—you can’t conceptualize it. You can’t hold the concept of infinity in your mind, but you can kind of believe in it—because of counting and because of your sense of counting. And so infinity is this thing you can’t grasp, you can’t fully conceptualize, but counting lets you sort of believe in or touch it. And the counting of the moments that you are yourself is in a different part of the *Essay* thinking about ... Locke; I wish I had Locke with me.

**Vareschi:** Oh, I have it handy if you .... [laughter]

**Favret:** ... strangely ominous tone!

**Pasanek:** Locke’s in the *OED* under “infinity.” I was looking earlier, and it’s not that passage, but it’s the one “you think of yourself and then extend yourself in all ways, that’s how you can have an idea of God.”<sup>11</sup> So that’s the illustration the *OED* takes for “infinity.” We end up having the idea—I mean, he kind of gives it and takes it back, as an empiricist.

**Feder:** Right. And so I think the important thing is that there is no stable definition of infinity in theology, in mathematics, in philosophy. But people are kind of chewing on it and mulling it over, and it’s food for thought. And it’s as food for thought that these different sort of moments of formulating it or thinking about it are influential...

**Nick Paige:** This question is more, I guess, for Ryan and Justin. I just kind of wondering where in these various, in these alternate takes on, you know, on kind of biopolitical questions, how do people—how do you and people, you kind of intersect with, think about old man Foucault in all this? I mean, where—and I guess that ... other people could chime in too, I think—what do people think now about, about him? [Laughter]

**Sheldon:** I like old man Foucault.

**Roberts:** I think in my own field it’s become hackneyed to cite him; I don’t see it anymore. In fact, I’ve had friends of mine who’ve done dissertations and been told by others to take it out for the books, so—

**Nash:** That’s always been true. [Laughter]

**Paige:** So you don’t feel then—

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<sup>11</sup> This appears to be a merging of two quotes from Locke’s *Essay*. The first, cited in the *OED* under “infinity” reads: “It is Infinity, which, joined to our Ideas of Existence, Power, Knowledge, &c. makes that complex Idea, whereby we represent to our selves the best we can, the supreme Being.” (II.XXIII.148). The second, “as far as this consciousness can be extended backwards to any past Action or Thought, so far reaches the Identity of that Person” (II.XXVII.9).

**Roberts:** I mean, I cite him...

**Paige:** —You don't feel that there's, you don't feel that your field... Is it just that you don't put your questions in the same way that Foucault used to put them? I don't ... or is it because you've already kind of internalized...? It's like, accepted? What—or is it a way in which it's not satisfactory? His paradigm is not satisfactory?

**Roberts:** I'll answer this a couple of different ways. One is my own—and again, I cite Foucault—one is my own sense that history is increasingly, at least among slavery specialists, becoming a kind of anti-theoretical discipline. We're not resorting to theorists to explain phenomena; they're focusing on sources as much as possible. And that seems to be the trend, the fashion. I don't know why. And my second answer might be, "Yeah, perhaps we've internalized the ideas to such an extent that we no longer are." That's my sense.

**Sheldon:** Yeah, so to sort of speak in Foucault's defense: I like him. The thing is that, and I tried, this is the only time I've mentioned biopolitics. Like, in the chapter that is about three times the size of this paper I only biopolitics the once, and I think that's because biopolitics is a very useful framework but it's also a very overused framework, and it's so capacious, and if you want to sort of think about biopolitics on its own terms you need to think about Foucault's legacy and then, like, Agamben is probably especially—you know, like if you're thinking about something like the plantation or the colonies it's probably more useful to talk about Achille Mbembe's *Necropolitics*, for instance. But one of the things that I like about Foucault is I like Foucault's structures of thinking. I think that he is probably, he is much more willing, in a way that someone like Ian Hacking is, to foreground the nineteenth century when discussing biopolitics, and so the things I don't like about his work on it mostly have to do with ignoring what I think is, if a less visible, you know, a similarly robust and alarming tradition of trying to create infrastructures for categorizing and managing life based on those categories. So Hacking's notion (and I'll associate them) that "counting is hungry for categories" I think actually maps onto the eighteenth century and the seventeenth century much better than they might think about it. So I think... yeah. Also, Foucaultian governmentality is still a useful way for thinking about the emergence of something like political arithmetic rationality. You know, the moment where Graunt sort of goes further than Bacon and sort of contests, you know, what I'm thinking of as sort of a Hobbesian typology of the state and starts talking about learning the natural laws of population so as to enable a sovereign to manage and to rule rather than super-overthinking the sovereign authority, I think, is interesting and a critical moment that Foucault's work on governmentality still illustrates or articulates very well.

**Rob Schneider:** Just briefly: I mean, I think it goes back to Sarah's point that Foucault—but I think also someone who's a very powerful figure but less subtle than Foucault, which is James Scott, in *Seeing Like a State*—all of those I think really tell us something very useful and to me very convincing, but it's set around a view of reality, which itself can be mistaken. It's so convincing that we could sometimes mistake that ascription of a

utilitarian or instrumentalist sense of knowledge as what's actually happening on the ground. And I think we have to combine that with another perspective (perhaps "bottom up"), working with the context to see what in fact the real contours were that those perspectives are trying to homogenize. And I think that's... I think you're right: we've internalized Foucault to the point where we can sort of go "under" him in a way and see what the dynamic is between that prism, that homogenizing description, and what the dynamics were as social forces and the rest were impinging upon it and reacting against it.

**Seiler-Smith:** I'll hook on that and say I have undergraduate training as a psychologist, actually, and I often compare my experiences with Foucault in my graduate career to my experience of Freud in my [undergraduate] Psychology Department. In that... practicing psychologists tend to appreciate and understand sort of Freudian notions of the unconscious and of structured therapy, right, as something that they ultimately owe and still subscribe to, believe in, with Freud. But other ways in which Freud operates are largely rejected by psychologists until the odd patient comes in who actually has an oral fixation. I worked with a clinical psychologist who said that this girl came in and she was like, "She literally had oral fixation in the classic Freudian sense, and my mind was blown" because of course they really don't think about it in these terms anymore. I think that with Foucault it tends to be the case where we sort of acknowledge that what he did was usher in a certain set of questions which we are now ever sharpening, but I'll admit that when I started at least writing my dissertation prospectus, Foucault was everywhere. Foucault fo' sho', right? He was everywhere, and then by the end he's really almost... I mean, he's not "a footnote," but he's essentially a footnote because what was so much more interesting was the way in which the seventeenth and eighteenth century actually talked about this stuff (as opposed to the terms that he gave it). So whereas Freud gave term to the "unconscious," before Freud how they thought about the mind was also interesting. Right? It had its own textures. And so I think what we like to do is maybe groove in the textures a little more than what Foucault does even as we acknowledge some of the sort of meta-usefulness of what he's doing.

**Roberts:** I'd like to add a layer to that as well, and I think you've articulated much better than what I've said what the issue is here, but I think also among slavery scholars is there's a real effort to make what we're writing more accessible to a general public, whatever that means. And so making it accessible means not including this kind of theoretical language. So a lot of prominent works on slavery—think of something like Edward Baptist's recent book—they're not just being marketed to scholars, they're being marketed to the general public, so they do not include theoretical discourse.

**Powell:** I'm interested in how curiously ungendered the discussion has been so far, particularly since maternity or reproduction is a major topic in all three papers and certainly present in, you know, *Plague Year*; he has that funny comment about, "Well, how do you tell if it's an abortion or a stillborn?" "I dunno." And I think I'm just going to be really general about this, but I would like to hear kind of more about it because it does seem like there's some sort of pseudo-Aristotelian connection between these vagaries of the infinite and the problem of paternity that Wordsworth is working through (not very well in my humble opinion?). What's the statistic? Through most of the eighteenth century, one



in eight women died of childbirth or its complications. That's a fucking plague right there—but it's not talked about that way and those numbers are not charted that way; it's just a thing that happens. I don't want to be too *Handmaid's Tale* here, but it does seem to me sometimes [that] it becomes a plague when men are dying; or it becomes a plague when so many women are dying that you can't keep up the labor force. Or, you know, there's so many men missing that you can't inseminate the women (but you have to be missing a lot of them before that happens). So given the way that this is kind of all turning around this odd axle of reproduction, I just would sort of like to hear more about numbers and gender because they're, you know, numbers are not objective; they're not objective. And, of course, Swift for me is really present in all these discussions without being brought up.

**Feder:** So something that's kind of in this key is ... So my committee kind of read through and picked up a promise that I put it in there about a side project on Mary Shelley and motherhood as monstrosity in feminist theory. So I was working on those two projects simultaneously for a long time and then [I needed to finish the side project first because of the 2018 *Frankenstein* bicentennial] So, I have a really strong interest in motherhood .... And that's sort of coming out in my reading of all the—I mean, I'm not the first person to think about motherhood in *Lyrical Ballads*. I mean, it's a pretty standard thing... But that's become this kind of obsession that is definitely influencing my reading, so I think bringing in Wollstonecraft here... I mentioned before that I kind of got around that. So I, my Malthus problem is not just for me; it's also for Romantic poets not really liking Malthus, and I didn't just triangulate three contemporary scholars—Poovey, Ferguson, and McLane—but I also kind of bring in Wollstonecraft as opposed to Godwin as the way to kind of get out of the matrix. So ... This isn't an answer to your question exactly, but just to say that “yeah, I'm on the same page” in terms of I guess the connection, I guess what I want to say is that in writing this motherhood-and-Mary-Shelley project the thing that really stands out for me is the false distinction that we make between intellectual and bodily history. And to cite something that my advisor once said on a panel—so Marjorie Levinson was on a pedagogy panel and she said, “The body is a mind mechanism.” And that really kind of stuck with me as—so, okay, so to me that sort of sum of the feminist practice comes in, is in thinking about: there's not such a clear distinction for me between the intellectual history and the history of being a person in a body. And I think maybe, Justin, I want to kick that question over to you.

**Roberts:** Well, I have a lot of interesting things here. I'd like to start with the gender question for the moment. There are so many different ways that you can come at this; I talk more about this in my book. But if we're going to talk about (objectively or empirically) the health and the mortality rates, morbidity and mortality rates on sugar plantations... Sort of an interesting aside: in general I work with this stuff and women live longer than men on sugar plantations.

**Powell:** Women live longer than men in most cases.

**Roberts:** But there's an enormous number of women dying in childbirth—enormous. And I actually think that's the leading cause of death in enslavement particularly.... So

we look at this sort of classic age pairing, you see the sort of thinning out in the 20s and 30s of women and the sort of ballooning out again in the 40s and 50s and 60s and men just steadily petering out. So it's sort of fascinating to me and yet, you know, the planters desperately want to bring in male slaves, are always trying to bring in male slaves, until this amelioration movement comes into play. And the vast majority of women labor in fields; the vast majority of slaves who labor in fields are women. Sixty to sixty-five percent of any field gangs are women. Men do all the supervisory work, and men do all the skilled—even the male slaves, so there's sort of hierarchies there. I talk in my—

**Powell:** I grew up on a working farm and when we were hiring farmhands, if you can get them, my parents' preference was always for teenage women because they couldn't, you know, lift as much, but they could work harder, longer hours without complaining (versus teenage males).

**Roberts:** Yeah. You know it's funny, I remember saying to my supervisor once, I said, "So outside of childbearing years, how is it these women are surviving this experience?" She says, "Well, women are just tougher than men; that's what it is." And there's one scholar who actually argues that maybe part of the reason is is [*sic*] that men and women are fed the exact same amount of food, but women have lower caloric requirements.

**Gavin:** Are other...are a lot of other—are other men killing each other? Are they fighting?

**Roberts:** Oh, are the men fighting and killing each other? So I've written about this in a different context, about the enormous amount of violence within the slave community. And so men are killing each other; women are killing each other; families are killing each other. There's just this tremendous amount of violence, and there's a recent book on the nineteenth century that's come out, it's award-winning, about plantation violence as well and so you do see a lot of that. And sort of one more interesting aside: When I was talking about the sort of humanitarian reconceptualizations of the master-slave relationship, one of the things I was puzzled by a lot was despite the fact [that] the vast majority of people in the field are women, what I find always tough in the master-slave relationship is they [planters] always use "him." You know? So "treat him well." So it's conceptualizing a male slave in a master-slave relationship, and I'm just fascinated.

**Seiler-Smith:** There's a Rebecca "hook" and a Jesse "hook"...

**Spang:** So when Rachel [Feder] made her point about not strictly distinguishing intellectual and bodily history, I was reminded of Bret's comments about the relation between sensation and number, and then quite fortuitously I came to a passage in Rousseau's *Emile* in which he says, "Comparative ideas, great or smaller, like number ideas, one, two, *et cetera*, are not—are certainly not—sensations, but my mind only produces them when my sensations occur." So you've got to be sensing something in order then to count it or to say that one is bigger or smaller than the other.

**Feder:** And in your opening remarks to the Workshop you called counting “multi-sensory.”

**Seiler-Smith:** Well it’s really empirical.

**Jesse Molesworth:** To Nush’s comment, the gendering of risk was actually something that became important to me as I was writing my book on chance. And that’s, you know, something that [Lady Mary Wortley] Montagu acknowledges very strongly. That is to say that the risk of smallpox is much greater to a woman because, you know—men and women have an equal risk of getting it, but a woman sacrifices her beauty which makes her unmarriageable.

**Powell:** And even her racial identity.

**Molesworth:** I actually, she, if you look at Montagu’s letters, she modifies Pascal’s Wager when describing the marriage market and introduces this category of “limbo,” you know, which is between infinite sadness and infinite happiness to describe a kind of marriage that’s “ehhhh.” It’s this gendering of Pascal’s Wager which, Rachel [Feder]... I think there needs to be an important intellectual component for your project as well, Pascal’s Wager. But, you know, Montagu herself is very interested in the gendering of risk and of the universal.

**Feder:** Yeah, that’s good.

**Roberts:** If I can make one sort of final, quick comment on the issue of gender, I describe in my paper that every sugar plantation had a group of “inefficient slaves.” That’s what they were described as over and over again. I’ve seen the slave inventories; they’re 95% women. Most of the women are in their 40s; I imagine it’s women who’ve suffered through childbirth [and] have been damaged somehow. They’re just described as “inefficient,” “inefficient slaves” in general.

**Sheldon:** One more comment on gender: Just to answer your question on *Journal of a Plague Year*, I mean there is actually a very specific and interesting answer, and it’s probably not the one most people expect, but it has to do with the composition of the bills of mortality and the gendered labor that goes into them. So the people who do the searching and the identification of the bodies are always women. Yeah, so Paula McDowell has written about the way that there’s this oral component to the knowledge-making process that’s discounted or marginalized.<sup>12</sup> Right? That’s the part where all of the uncertainty is; it’s in the identification of the cause of death. And so it’s gendered labor that’s producing a kind of gendered knowledge that then becomes the sort of constructed or incorporated uncertainty. And then yeah, I mean... so this is something I haven’t really sort of figured out how to reckon with, and it’s sort of a strike against the project, I think... but, right, there’s this sort of, this problem seems to demand this sort of deep labor history going back, you know, 350 years, and that’s something I don’t know how to do. Right? That’s

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<sup>12</sup> Paula McDowell, *Print Commerce and Fugitive Voices in Eighteenth-Century Britain* (University of Chicago Press, 2016).

not in my training. Right? I don't know if it's possible to do that, but that's sort of like this interesting sort of like alarming labor problem that's built into the whole process. And then you have this question that's an epistemological problem, epistemological bias.

**Seiler-Smith:** Well, in both the actual, like, seventeenth-century plague texts that Defoe is borrowing from—like the orders and instructions that he cites as well—it's not just women, but they particularly seek out elderly, poor women and poor people in general—vagrants, etc.—because they don't want to get close to the disease. Right? So they particularly employ people who are otherwise (outside of plague) the unemployable. So these people stay in the city and they have... they're incentivized to stay, so that they [elites] can actually manage plague at a distance while they employ these people. I mean, it's essentially in many ways the same way in which caretaking now is gendered, racialized, and classed. Right? And they utterly exploited these people, which Defoe points out with much... he's not very happy about that. But also, it's putting the most vulnerable at risk while extracting—I mean, the king was, like, over in Oxford. Right? “I'm here with you in body and spirit” is what he said. You know, “The king has two bodies and my *other* body is with you.” [laughter] So yeah, absolutely there's also a classed element to that as well.

**Tracey Hutchings-Goetz:** So I want to ask a kind of rather broad formalist question, sort of inspired by what Mary [Favret] asked earlier about poetry and number, and it's to just sort of invite the three of you to speak about the relationship of narrative to number in your primary sources—because I think you see kind of different things going on. So if you look at the kind of slave accounts, right, you have number and narrative put kind of literally in separate columns. Right? This slave is counted as one, but we have this little story about, you know, she smothered her baby to death. Right? But I think we also have a much more complicated thing going on in *Journal of a Plague Year*. Right? Is number belying narrative? Is it inspiring narrative? Is it displacing narrative? So I would love to hear the three of you talk about that as a way of bringing together all of the texts that we are discussing now.

**Sheldon:** Yeah, I'll take this step because I think that one of the things that's really interesting about *Journal of a Plague Year* is that you get this sort of metanarrative of textual accumulation in the way that the bills sort of accrete. And as that record develops it sort of works as a self-producing context, and it's one that Defoe can use to make these conjectural revisions and so to establish a superior narrative of plague mortality. To say that, you know: “This bill wasn't right. This is how many people must have died.” And he can sort of keep doing this again and that's sort of, so I think that numbers actually, they're what enable the narrative to function in this text, and that's sort of how I think about the sort of, the ambivalent status of number in the novel. Right? Because you have a narrator who's ostensibly so skeptical and so hostile to these numbers but he keeps repeating them and reproducing them in the book all the way through. And yeah, so in that way you get a narrative about textual production and you also get textual production that's enabling the narrative to function and to sort of become coherent because as you were saying earlier it is very disordered. Right? It's a confusing book to read in a sort of... you know, it makes it sort of impossible to locate where we are in the city, but the numbers also help with

that. Right? You get to see the plague as it's moving not only through time but through space, you know, when it's going from one parish to the next.

**Roberts:** I'm often struck when I read through these "increase and decrease" accounts (because I've read through more than I probably will ever want to remember) that the descriptions (these narrative accounts)... two things: one, they're never mentioned in plantation management account records; it's only the number, so I've never understood why they're there. There's no reference to them. I mean, it's "Six slaves died and five were born, so maybe we'll buy more in a couple of years," but you never see the owner or the manager referencing the specific story as to what's happened *unless* there's a plague happening of some sort. You'll notice there's a whole bunch of slaves dying of "the gnaws." They'll say something like that. And then what strikes me about their explanations of death is they elide what's really going on. Right? They're fictitious. It's remarkable. You know, you don't see "the slave died after being beaten to death," or "this slave died for whatever reason; they're ill because they've been underfed." You know? "The mother has rolled over on her baby because you're working her around the clock and she's exhausted" and, you know, et cetera, et cetera. I can imagine all sorts of other circumstances. There are really interesting sort of issues with that, and that way they're almost even more problematic to me than the numbers themselves. They died, yes, but it doesn't matter [how]. At one point early in my graduate training I remember going through and trying to calculate the causes of death—because I was young and naïve and thinking, "Well, okay, maybe I can really get at some sense of how many slaves have died of malnourishment or how many slaves have died from plantation accidents." And I became so frustrated I gave up on it and I just didn't bother.

But there's sort of this interesting relationship going on there. And then when it comes to the sickness accounts, and I mentioned this in my paper, it's never an explanation of why someone's sick ever. They're just sick. They can't work. You know? Sick could be they sprained their wrist or they've got the flu; it doesn't matter. Right? And then one of the things I include in my book (and many of you will never have the chance to read it, but if you're ever interested) is the description of some plantation hospitals that are going up in this period that I find really fascinating. It's one of the amelioration movements. So after the 1750s, 1760s, the largest plantations all sort of came up with these hospitals, they say this as an aside, and what the hospital is—and I finally realized this doing these inventories—is it's literally a box in the middle of the plantation that you go into and you get locked into until you agree that you're well again. And the slaves are told they have the right to report ill whenever they want, and that's one of the amelioration techniques: If you're sick, you're welcome to not work and to go to the hospital. But they lock them into the hospital, they give one slave a key—who presumably the overseer trusts, or sometimes the overseer will do it themselves—and they lock them in, and the windows are barred. I've actually seen descriptions of these hospitals, and there's stocks in them, and the slave's punishment is that if they go into the hospital they lose their one Sunday off. All the slaves get one Sunday each week. They go to the hospital and they have to stay through until the following Monday. So it's this really sort of fascinating calculation of how to increase productivity without necessarily increasing violence. Right? It's striking.

**Hutchings-Goetz:** I'll just respond quickly; the narrative being sort of potentially fictitious in some ways might be the moment precisely where the paternalistic discourse and the kind of attempts at utility are, like, cutting against each other. Right?

**Roberts:** Definitely, definitely. That's a good point.

**Feder:** Kind of a sharp pivot from that to poetic form... but... yeah. So the answer kind of could be from the perspective of my project to the question of "how to correlate narrative and number?"... So there was a different—there have been a lot of incarnations of this project—and there was a moment when it seemed like there would... it seemed the direction it was going had to do with the Romantic long poem, which is a kind of interest in the line in the long poem and the way that these long poems sort of simulate endlessness or activate passive accounting and then ironize that and do that in all sorts of ways. So, you know, the alexandrine line at the end of each Spenserian stanza in *Childe Harold's Pilgrimage*, it seems like an epiphany or a moment of synthesis and then you just get another epiphany and another epiphany and another epiphany and so on. So that was one way that I was sort of angling... in my mind this idea. You know, right now, because I really do want to think about kind of Romantic infinity discourse and the poetics of infinity as a kind of space or source for the environmental humanities that seems like one of the most, that seems like the most useful way I can kind of approach the project right now. I'm zoomed in on *Lyrical Ballads*, and in terms of narrative and number there are, you know, as we mentioned before but we really didn't talk about, it often has to do with, you know, "What's the story that you're telling yourself about number versus what someone else who's in the same poem as you?" So in "The Last of the Flock" you have the authorities, you know, telling the man, "Well, sell your sheep so you can feed your children." And that's just everything because, you know, the rates of change that he is using to structure his life, his family, his business don't correspond with the rates of change that he's sort of told to impose. And if you really kind of close read the poem formally in light of those kind of clashing rates of change it really kind of looks like he kills all his children. So the connection between narrative and number in the *Lyrical Ballads* I think really has to do with kind of counting theories and different theories of counting as different sort of expressions of—and this goes back to something we discussed yesterday—different questions of values and commitments and pressures in that way.

**Seiler-Smith:** Rebecca? Mike, and then Rebecca.

**Gavin:** Yeah, I have a question about the relationship between slavery and other kinds of work (in your work). It seems like one of the things you're doing is you're trying to break down any really clean binary: that slave plantations were almost like this corporate entity where workers are being managed and managed to the effect of principles of management, and that it's useful to think about slavery in that way rather than thinking of it as just pure horror, that we can learn a lot about it as a labor history. I wonder, does your work ever go in the opposite direction; like, what can we learn about corporate structures as a result... and what can we learn by thinking about this as a model?

**Roberts:** The closest I come... there are two things I want to say here. One is in the conclusion I draw some comparisons between the process of industrialization and slavery, and I see a lot of parallels as well. These are very similar processes of exploitation going on. One is clearly far more grueling—slavery allows violence, mortality, coercion—than other systems of labor, but I like to think of them as on a spectrum, not as some sort of binary comparison. The other thing I’m doing is I’m re-doing this some (and actually writing a paper for a conference now) that goes into some more detailed comparison and trying to draw on some of that historical archaeology I mentioned earlier, so looking at some of these historical archaeologies of early factories in Britain, and looking at some historical archaeologies in slave plantations as these sort of proto-industrial sites in sort of the way they’re being designed. So is that what you’re—

**Gavin:** Yeah, I guess I was just wondering: Is there a kind of link, you know, [between] people who are describing factory labor, who are borrowing techniques developed in the eighteenth century for managing plantations. Is there a link there?

**Roberts:** I wish I could find that. I haven’t found that smoking gun yet, and I don’t see factory managers referencing sugar plantations. I do see sugar planters *often* referencing what’s going on in England in agricultural management or detailed discussions of how feeding slaves should follow the management of the poor in workhouses. So there’s some really interesting observations there. I don’t know. It’s clear to me this process of industrialization or proto-industrialization in the Atlantic World is going on first in the Caribbean at sugar plantation sites. It’s preceding what’s going on elsewhere. It’s fascinating, and I wish I could see more connections between them. But that is one of the things that I stress in my book about slavery is that it’s a sort of labor history—that’s the point. We sometimes make these caricatures of slaves as political activists sort of, you know, constantly battling and resisting tyranny, oppression, and the institution. What I stress in the book is I really want to try to understand the day-to-day experience of their lives and their working lives on the ground and what that working situation allowed them to do, what it creates... And what I end up finding is just slaves having less opportunity than slavery historians have allowed; they’re in the day-to-day exhausted and malnourished. They have no energy. These people are just... their lives are, all ... these opportunities are denied. There’s almost—there’s all this talking about an “economy of time” on plantations and how if slaves had their own free time they could build their own lives, and what I also suggest in my book is that there’s also an “economy of energy” at play. It doesn’t really matter how much free time they have if they’re exhausted in the only free time they have. So I think that might answer some of your question. The one thing that came to my mind in this discussion of plantation hospitals and Sarah’s comment earlier about how to get at slaves’ experience... Just to give you little tidbits that leak through: the plantation hospital was very rarely actually called a hospital in the records, although I know it was, it was compared to the hospital several times. For the most part, they called it a hothouse because, quote, “that’s what the Negroes called it.” And so the managers themselves start using the slaves’ terminology for a building that they will say is “the hospital, or the hothouse.” And so they see those as interchangeable. The slaves themselves don’t think of this as a hospital; they won’t call it a hospital. It’s “the hothouse” for whatever reason—

I'd imagine presumably because it was boiling hot in the middle of a field. So you get these wonderful little tidbits that slide into the documents from time to time.

**Seiler-Smith:** Nush had a hook?

**Powell:** Really quick, not exactly what you were looking for, but: the shipboard practice of making people walk the plank as punishment, that was not piratical. It was developed for slave ships.

**Sheldon:** Also not entirely answering, I think, your question, but—and this may be perfectly obvious... But if you think about someone like Cedric Robinson and the idea of “racial capitalism”: its argument is that basically you have race built into capitalism from its inception even in Europe and it's something sort of exacerbated through the erection of a plantation economy. But there's really no getting away from it, and so there's a way in which he's sort of doing the work of thinking about capitalism in terms of slavery (and see C.L.R. James for that). And then also just, you know, thinking about this notion of exhaustion, right, the idea when you're thinking about capitalism for the first time and you're looking at capital and you have to envision how surplus labor is extracted. Right? And there's this fraction that doesn't go to you even though it's yours. There's a way in which there's sort of like an infinite theft or a theft of surplus labor that ...I guess “infinite” is a weird slippage in the context of this panel—that is almost immeasurable. Right? And then to think about this in a way that's slightly removed from labor you could have someone like Orlando Patterson suggesting that it's natal alienation that defines the category of slavery. Right? That it's not necessarily reducible to labor because people are effectively made for recorded history. And this comes back to the idea of the individual case as problematic, right, not having a social history that you can belong to and thinking about what's made in the wake of that.

**Pasaneck:** I'm still thinking about Nush's question about gender, maybe, and this involves something you said about nonproductive labor... So in part about a kind of like Marxist or feminist Marxist category of, like, reproduction of the ability to labor, but then also just reproduction. So I'm just wondering about how economic historians even think about this. The doctoresses, this new role, you describe this as a nonproductive role, right? And...

**Roberts:** I'm adopting sugar planters' language there....

**Pasaneck:** Right. So I don't mean that as a gutshot at all, but I think it's really interesting then, ... like, what counts as reproduction versus production? And that's an interesting question. I mean, there are certain ways in which the laboring body probably needs to be prepared for reproduction of the bodies, so it's all about gender.

**Roberts:** So one way to explain that—I'm sorry, do you have another—It's one way to explain for me is (and perhaps I am too unconsciously using the language of the planters there)... but when I talk about the appearance of the doctress, before 1750 I never see that, because planters didn't allow that. They didn't value reproductivity at all because



they could always just purchase new slaves. And so suddenly they place a value on reproductivity and then in that sense that's perhaps why it appears, because it does have a value in that period. But it wouldn't have had a value in other periods. That wants a distinction.

**Seiler-Smith:** Rebecca.

**Spang:** I noticed we were losing some of our number, so I just wanted to highlight that we had said we would go to 5:30 since we have three papers, but I don't want to exhaust people's energies. I actually wanted to take Tracey's question about numbering narrative and turn it around and ask it of Nick [Paige] and Mike and Elizabeth and Melanie because it's a sticking point—I probably shouldn't say it when he's absent—but I think it's a sticking point between Simon [DeDeo] and me: How are we going to *write* this? What will it look like? And we start to, like, have a slightly tense conversation about that... and then we think of something else we find interesting...and we go around it. But I'm wondering now, everybody who counts things but is—I mean, we've got three literature people and a historian—what is the relationship between the numbers and the narrative?

**Melanie Conroy:** One thing I'm fascinated by working on elite French people, and then hearing about the way numbers are used in slave history is I think to some extent what I'm doing is treating the members of the *académie* more in the way in which slaves have previously been counted. And I do, I mean, hearing this discussion is very troubling to me ... Because of course previously, like, with the *académies* you have a given number of people who are in the *académies*, they have seat numbers that French people are very interested in, that they inherit from one another. There's a whole system of counting that serves to individualize, to add prestige, to add a history. Like, not only are you in the sciences but you inherited the chemistry chair from this illustrious person, and you gave an homage when you took the chair over. And I do think to a larger extent I'm trying to look at them as a group and that's very alienating, and I can certainly see why.

**Spang:** That's very interesting.

**Paige:** So I mean, I guess I, I hope I already answered this actually in my paper in the sense that I... it depends what you mean by narrative. I mean, if you mean something with a beginning, middle, and an end, I'm not following a narrative.

**Spang:** But you're writing a *book*.

**Paige:** I'm writing a book that charts a series of ups and downs going from 1601 to 1830, but those endpoints are chosen for some practical reasons but also because the phenomena that interest me (as a seventeenth-eighteenth-century specialist) are over by the time you get to 1830. But is there?... there's not a, there's not one narrative... and that's, it's not, there's not something happening in this period that brings us to a steady state that we will call essentially "now" or "us" or... so—

**Spang:** I understand that, but you're using the numbers to craft a story that isn't about continuous change over time but is nonetheless itself a story that, as you said, starts in 1601 and ends in 1830.

**Paige:** But why are you calling it a story? There's something I guess I don't understand here. I guess... Why? I'm not saying there's a story that starts in 1601. I'm just saying, I mean I, that's my slice.

**Spang:** Okay, so you are specifically—when you write the book—saying to your audience, to your readers: “This is not a story. Dear reader, I found it. It isn't dated.”

**Paige:** That is actually the beginning of my introduction. I say, “I am not telling a story.”

**Feder:** Are you not telling a story *at all*? [laughter] No, I think I want to challenge what you're saying because I think you are using numbers to tell a narrative about literary/historical methodology.

**Seiler-Smith:** Could you say “qualification” instead of... like, a useful alliterative opposition is quantification and qualification. Right? How you qualify quantity, i.e., how you actually use linguistic description—if you don't want to say “narrative.” If you're thinking narrative in terms of, like, it has to have a particular plot, and plot also has numerical resonance ... then would “qualification” also work? You're writing a qualitative thing about quantity.

**Pasaneck:** In another way you could call it a “chronicle.” [laughter]

**Seiler-Smith:** Jonathan?

**Jonathan Elmer:** Yeah, to the extent that Rebecca's question is focusing on scholarly rhetorics, which I think it is... So, I mean, one of the amazing things about our visit with Moretti was we were all bathed in Moretti for a while, and that's always an interesting thing. And he has a very powerful rhetorical style and a way of responding to your question. There's not one trait to it, but a number that I think anybody who's read any Moretti will recognize. It's discontinuous: so it's not at all—I mean, right down to the sentence fragments. He loves the sentence fragment. He talks about his illustrations. He explains them and then he moves away from them to go back to the question of “why he chose (or why they chose) to pursue this thing?” and that particular question section framing is always informed by real, real [*sic*] fast shorthand by scholarly consensuses or things that people already know or things that he's already written. So, “There's this thing we all have though for a long time. Well, well, let's find out.” And he does some scatterplots and says, “Ehhh, maybe not so interesting.... One thing here.” And I think that's a really successful rhetoric for doing this kind of work, for doing qualitative-quantitative work—and I recommend it to everybody. [laughter]

**Seiler-Smith:** Max, did you have a hook or a question?

**Max Nagano:** A little hook. We've been talking a lot about number, but I don't know if anyone has explicitly distinguished between cardinal numbers and ordinal numbers, ordinality. Basically, if you're doing probabilistic stuff you have to distinguish, that's your order, right? That's numerical kinds of systems, so the argument for that ... I kind of, it's, you're talking about numbers, not talking about it in the sense we'd normally, "one, two, three, four." You're ordering things, right? And any kind of diction that involves character with preferences that change into preferences, and we were talking about economics, economic actors having different preferences... these are all, this is order. Right? Order is a type of number, and I just wanted to throw that out there. And I think people have been crossing this, right, when we've talked about this, but I don't know.

**Feder:** I have a response to that and then I will try to walk back to my hook. I think that that's really important. And something that's very fascinating: when Cantor finally comes up with a mathematical definition of infinity, the way that he got around all the logic problems is to distinguish different kinds of infinity. So there's countable infinity and there's, you know, uncountable infinity. So the values between zero and one, that's an uncountably infinite number of values, but the integers between one, two, and infinity, you know, [can be counted]. So it's a kind of dividing up of different ways of conceptualizing infinity that really interestingly gets kind of anticipated in infinity discourse that's not strictly mathematical, you know, in the Enlightenment (in thinking about different ways of conceptualizing infinity).

I can't connect this back, but I have to go back... I'm sorry, then I promise I'll let this drop. It seemed to me—to kind of jump back into Rebecca's question, and I promise this is the last question I'll ask for the rest of the workshop (for the rest of the day!)—it seemed to me that there maybe is a sort of metacritical narrative. I'm wondering if your use of the numbers that you're using in your digital-humanist inquiries are in fact being used to tell a story about how we draw on canonical, exceptional examples of the novel to sort of talk about the rise of the novel and you're telling a counter-narrative. Are you not? I mean, did I misunderstand you?

**Paige:** I mean... It's a counter-*account*. [laughter] I mean, I think I may be taking this word "narrative" too literally, but it strikes me that actually, I mean... the dominant methodology in the history of the novel *is* to tell it as a story. I don't want to tell it as a story. So that's... but it's not a counter-narrative because I'm not proposing a different story in its place. But that doesn't mean I don't have a point to make!

**Hall Bjørnstad:** Rebecca's question is a version of my question yesterday about whether you have to be Moretti to do Moretti and do you have to be Nick Paige to do Nick Paige and of course it's not a counter-narrative, it's an anti-narrative. But, or in the sense that there is... doing digital humanities comes with some demand for coherence that precludes the traditional narrative.

**Paige:** I don't know. It seems to me that Moretti generally tends to impose the same narratives on his data. I mean, for Moretti it usually turns out to be about the rise of market culture and the bourgeoisie all over again. So it seems to me that there, there is a kind of powerful system.

**Nash:** My brother physician is not here<sup>13</sup>, and I feel an obligation to speak up on his behalf. Because I think, Nick, when you say that you're not telling a narrative he would definitely have your back and say: "That's exactly right. You are not telling a narrative." And when you say but you do have a point, that's when he would say, "No, that's where you're mistaken." [laughter] Precisely because—and we were actually talking about this earlier—because there is a conception of criticism, and it's one that Jesse, I think, really takes to heart, which is structured by narrative, in which some notion of narrative surprise is necessary to generate the forward trajectory of the account you're offering. Narrative account does require that surprising moment, something happens unexpected[ly]. And you're interested in offering an account that's counter to that, and therefore Jesse says, "What's surprising?" And you insist there's still a point.

**Paige:** Yeah... I mean that's a little different because that's a question of how I structure the exposition itself. So for me, you know, I start with one graph and then I start to pick that graph apart in ways that (because of my experience dealing with the material) I see interesting and surprising things that were surprising for me, and then I try to frame it in a way that will make it perhaps surprising for the audience or, at least, interesting. So that is to say there's a certain techne in the way that I structure the *release* of the information that I've discovered, which I... I don't discover it in this order. Right? So to give it in that order, that's a sum, that's a decision. Right? And so there's something Aristotelian in that—I guess there's a beginning and perhaps an end, but that's not the same thing as saying that I have a story to tell about the novel. Right? So maybe there's two different levels of that happening. Does that make sense?

**Nash:** I buy that. And, I mean, I accept that you're offering something that's not a narrative. I have no problem with that.

**Campbell:** Jonathan already said this, but to Moretti the novel is a system of genres, right? You guys are working really hard not to say "system" right now. I don't know why.

**Paige:** Oh, I'm happy to say "system."

**Campbell:** Right—that's what I thought! But you're somehow not.

**Paige:** Yeah, I would, I mean, I would call, my thing is I'm not calling them "genres," unlike Moretti, in terms of genre.

**Campbell:** I would just, I would say it's a system, right?

**Seiler-Smith:** Whitney: the *last* question.

**Whitney Sperrazza:** Oh, I don't know if it's—

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<sup>13</sup> Richard Nash and Jesse Molesworth both played the part of "physicians" in the previous evening's dramatic reading of *Tom Thumb*.

**Seiler-Smith:** Heavy burden.

**Sperrazza:** Well, I guess what I really want to do was hook onto Rebecca's original question here because I think it's really important to this panel and to what Sarah said at the beginning [of this panel] and what we haven't gotten yet because Nick [Valvo]'s project is on objects, politicization of objects; Mike's project is on, you know, place names in books—but these papers are talking about people and counting people. Right? And I think some of the tensions that we're coming up against as we try to talk about scholarly rhetorics and the right kind and appropriate kind of way to tell a story is in this sort of age-old tension between the anecdote about this social history and the sort of larger object-oriented counting chronology, or something like that. Right? And I just wanted to throw that on the table and make sure we were keeping that in mind.

**Elizabeth Bond:** I think my impulse about this is to try and think about Defoe, to suggest that there are signs that function, schemas for organizing, ways of counting that function in the eighteenth century—to see what that allows us to do and then critique that as well: “What does this eliminate in its existence?” Right? So that's part of... that's when you do, like, when adopting an organizational schema of people over time. Right? And then, that doesn't tell us a lot. How can we then access that to answer your question. And I kind of think that DH [Digital Humanities] allows us to do some of, I think, it tells us certain things but it doesn't tell us other things. And I think a lot of that is structured by our sources. I don't know. To me, like, being able to do both is the ideal.

**Sperrazza:** I agree, I totally agree, but I think why I want to bring Moretti into the conversation is he's so uninterested in the anecdote. Right? I mean, he says that over and over again. And yet, like, when we “put up feminist shields,” like, the anecdote is king, right? I mean, that's the method. And so I absolutely agree. I just, I'm really interested in hearing from those who are doing this sort of thing at the table. I mean, how does that work? How do you deal with it?

**Conroy:** I think one thing is that the tool isn't going to make the decision for you. Right? So even if you decide that you're going to create a network, and you're going to have people as nodes or something like that—you're still going to use that network in order to identify certain people and whether you're going to choose to find people who are marginal or central, it's not going to be the computer that tells you to do that. So you still have to, I think, take agency in the questions that you're asking and, of course, be highly aware of the things that the data can't tell you. And that's definitely one of the main problems with visualization, because people do tend to take visualizations as the sort of ultimate truth and they often get circulated without the descriptions and all the qualifications that you want to put on them. But I think the general rule is that, you know, a visualization makes an argument, and you have to be careful to know what argument you're making.

**Gavin:** Yeah, one thing that's interesting about this...so like I have my little confidence intervals of numbers and stuff. Well, that matrix is built over the entire, or something like the entire vocabulary in *EBBO*, and as you create one of those kooky word clouds around

“woman,” the result is actually really interesting. You get—I mean, like—you get the Latin word for “woman,” but the big words that jumped out, that are, like, head and shoulders the most similar words are the words “Samaria,” “Samaritan,” “Canaanitish,” and “Endor.” These are all, when you think about it, these are all Biblical *anecdotes*: the Samaritan woman. ... And they’re all stories of women who are in a dangerous relationship, are in some kind of relationship with some larger power. And so Endor is the Witch of Endor, who is confronted by Samuel? —well, anyway, it doesn’t matter. It’s anecdotes, actually, that are the most semantically important instances of “woman.” The semantic profile of “woman” is completely different from the semantic profile of “wife” or “mother” or “daughter.” It’s really interesting.

**Paige:** And what is an anecdote, exactly? I mean, what difference is there between an anecdote and an example? I would say an anecdote is an example where you don’t know the context. So you don’t know what it’s an example of—an anecdote is contextually marooned somehow, right? Whereas a proper example, it seems to me, is when you know the rest of the class of objects, have an idea of what the class of objects look like and can say that’s an example *of* it. But anecdotes have this very kind of... it just seems so fertile precisely because you’re unburdened with knowing about the context so you can—that’s why they all of a sudden function as signs. I mean, especially in new historicist accounts.

**Valvo:** It’s active resistance to any kind of similarity, this thing that allows you to disclaim—in a different way than you just were a minute ago—that you’re, like, producing a new master narrative here. It’s the very sacrifice of exemplarity that allows the new historicist narrative to function as such—

**Paige:** Yeah, I mean... by exemplarity you mean, like, the status of the exhumable.

**Valvo:** In the same way that you just said: as being a representative example of a class. Right. You’re saying, “This one is distinctive.”

**Paige:** Yeah, because you... I mean, I’m always... What I presented is, you know, coming out of a special issue of *New Literary History* on examples. Right? So I did start thinking about this in terms of that. You know, it’s just so interesting... this calls me back my fictionality obsession, but, you know, when Cathy Gallagher says, you know, “What we see in this moment in *Joseph Andrews*, we see a conception of fiction here popping its head up where it didn’t exist before.” It seems like... I mean, we’re tempted to say that that is an “example” of a new fictional novel, but it’s a weird example because no one would ever ask Cathy Gallagher, “How do we know that it is representative?” because that’s not how that type of argument works. That type of argument works because ... because we’re all willing to take that as a *sign* of something else happening. So the idea of, like, asking, “Well, how many of Fielding’s contemporaries make the same move? Do they do it if they’re writing a comic novel as opposed to a sentimental novel?” No one would ask that kind of question. It’d be a stupid question to ask, because that’s clearly not how the argument works.

**Seiler-Smith:** I do have to be tart; it’s 5:30.

## Techne and the Making of Poems and Suits

MARK VARESCHI

It's my real pleasure to offer comment on the essays of Brad Pasanek and Timothy Campbell. Brad Pasanek is associate professor of English at the University of Virginia. He is author of *Metaphors of Mind: An Eighteenth-Century Dictionary* (Hopkins, 2015) [and I'll say that I've pretty shamelessly taken Brad's book as a model for my own] along with numerous articles. Timothy Campbell is assistant professor of English at the University of Chicago. He is the author of *Historical Style: Fashion and the New Mode of History, 1740-1830* (Penn, 2016) [which has a really terrific book cover] and a number of articles. What a delight and privilege it is to discuss these scholars' essays.

Pasanek's "Heaps on Heaps: Accumulating Verse" commits the heinous digital humanities sin of showcasing a project, but if it is a sin, it is one easily forgiven as he asks us to think hard about the use and re-use of verse in the poetry of the long eighteenth century. Campbell's "Eighteenth-Century Dress and the Arts of Measure" suggests an antidote to the privileging of abstraction in measurement and quantification by returning us to the embodiment and intimacy of the human body draped by a tailor. What unites these exciting papers is a shared interest in collectivity and craft; in making, over inventing; in shared knowledge over individual genius.

As Mallarmé observed, poems are made from words. This is an insight that shapes Brad Pasanek's pursuit in identifying those "heaps of verse" that appear and reappear throughout our period. Aided by machine learning, but mostly by the labor of marking bigrams—those adjective-noun pairings that are prone to re-use and re-cycling—to teach the robots how to read, Pasanek seeks to develop an account (a quantitative account) of how "new poems are intertwined with older ones, from which, and out of which they are composed."

Poems are made from words, but whose words? From where do those words come? My sense is that the first question is not a pressing concern for Pasanek; please correct me if I'm wrong. In my own work on authorial anonymity in the eighteenth century, I'm all too familiar with the fact that such questions often lead to a dead-end, particularly with literary artifacts as portable as poems. The question of "from where words come" strikes me as a more pressing concern than "whose," and one that quantitative methods are particularly adept at exploring. Human scholars are pretty good at catching allusion, but at a limited scale (Josephine Miles excepted)<sup>1</sup>. Machines are much better and much, much faster. In tracing bigram recycling algorithmically and thereby "leveling" literary history (or, more specifically, the history of poetry), the "heap" disrupts not only our sense—that is, the human sense—of literary prestige, but also the tendency toward a chronology based on date of publication. I mentioned just a moments ago the "portability of poems." Such portability via publication in magazines, anthologies, miscellanies, newspapers, oral recitation, and even (and this will be relevant to Timothy Campbell's paper) printing on textiles means that verse travels across different media, each bearing

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<sup>1</sup> [Editor's Note] On Miles, see Rachel Sagner Buurma and Laura Heffernan, "Search and Replace: Josephine Miles and the Origins of Distant Reading," *Modernism/modernity* volume 3, cycle 1 (April 11, 2018) <https://modernismmodernity.org/forums/posts/search-and-replace>

with them different temporalities that disrupt any neat account of influence based on chronology. One question I might pose, is how we account for these temporalities once the media have been flattened via remediation as text file?

We have been told by Wimsatt and Beardsley: “A poem does not come into existence by accident.” Immediately following this sentence in their “Intentional Fallacy” essay, with no detectable irony, they borrow the words of Professor Stoll: “The words of a poem... come out of a head, not out of a hat.”<sup>2</sup> Pasanek suggests words come not from hats, but from other poems that briefly pass through other heads.

From heads and hats we move to chests and jackets and Timothy Campbell’s really quite thrilling and (for me) revelatory essay on custom clothing and measure. Professor Campbell argues of tailoring and the intimate experience of measure that it entailed: “Perhaps no social practice of measure was as widely encountered in such richly embodied ways.” Campbell traces the resistance to quantitative measurement that we inherit, along with many other things, from British Romanticism. Quantification is, it seems, dehumanizing and reductive as figured, quite compellingly in Campbell’s reading of Wordsworth’s “The Thorn.”

Measure, as it was employed in tailoring up to 1800, wherein the measurement was not abstracted via units of measure (inches or centimeters) but fit to the body of the customer via marks on strip of paper is positioned in the literary texts of the period as the antidote to the dehumanization and reductionism. It is, as Campbell writes, “a more humane mode of measure.” And I’ll note here just how much this paper has provoked me to notice how pervasive the language of tailoring is in the texts I teach and write about regularly.

Positioned in this way, measuring as tailoring is the countervailing discourse to that of financialization in the eighteenth century, which has been the subject of many excellent studies over the last two decades. The growing credit economy in its development of ever more complex financial instruments moves further and further from the commodities on which such instruments ostensibly trade. That is, a world made ever more abstract via the quantitative description and statistical analysis of daily life and its objects might find a site of resistance in the practice of being measured for a suit of clothes and the quotidian task of getting dressed and noting that one’s clothes “fit well.”

At the outset of my comment I suggested that these essays might find common ground in a shared interest in collectivity and craft. That is, in the shared practices, sources, and methods of making. We might then say that it is *techne* that unites the concerns of these essays. Henry Staten writes of *techne*: “techne in the Greek sense is any historically evolved, systematized method by which some end is attained, whether in the ‘fine arts’ or in any activity of making and doing, to speak of art as techne is to focus on perhaps its least sublime aspect—the one it shares with crafts and social practices in general.”<sup>3</sup>

Techne, in Staten’s account (and it is one I’m quite fond of), brings together the making of a poem with the making of a suit or gown. Techne points to the sedimented activity of generations of agents that continues to shape the practices of making. It is an “accumu-

<sup>2</sup> W.K. Wimsatt and Monroe Beardsley, *The Verbal Icon: Studies in the Meaning of Poetry* (Lexington: University of Kentucky Press, 1982), 4.

<sup>3</sup> [Editor’s Note] For Staten on techne, see his “The Origin of the Work of Art in Material Practice,” *New Literary History* 43:1 (2012), 43-64 and *Techne theory: A New Language for Art* (London: Bloomsbury, 2019).



lated, impersonal, and productive knowledge of how to produce a specific kind of object” (that’s Staten’s language). What Pasanek and Campbell bring together so beautifully in their essays is the sense of how adjective-noun pairings or the knowledge of translating measure to pattern (and pattern to measure) accumulates and changes over generations. They show just how impersonal these processes often are: we love to speak of poetic geniuses and designers of couture, but even they, or especially they, draw from the “heap” of anonymous verse or clothing design. It is this constant play between the impersonality of method and particularity of the literary artifact or the piece of bespoke clothing manifest through their respective methods that is, I would argue, the provocation to and the task of unraveling set for the literary or cultural historian.

## Heaps of Heaps: Accumulating Verse

BRAD PASANEK

Crossing literary history, discourse analysis, corpus linguistics, text mining, and bibliography, my study of poetic diction renovates a classic topic, a topic itself about *new-making*: that is, the culture of neoclassicism. The project poses a question to the long eighteenth century: where does new poetry come from? And it considers the converse: how much poetic language is recycled? I consider the aesthetic limits of reuse in a changing regime of copyright, neoclassical propriety, and new market opportunities; and I investigate, with an interest in complicating periodization, the seams between the Restoration, the so-called Age of Sensibility and the Romantic moment.

My project is unwaveringly single-minded in its effort to map the appearance and re-appearance of a set of two-word phrases—*bigrams* (constituents of what Samuel Johnson characterizes as poetry’s “glittering accumulation”) as they circulate through reprints and new verse and index the rate of text reuse in the period’s verse. Focused on my unit of analysis, I am pulling poems apart and isolating elemental adjective-noun pairings. This close attention to and marking of phrases is abetted by computational means, so that each phrase I highlight is automatically located in other poems. An entire system of poetic diction, its scope, detail, and structural affordances, is to be described in order to understand creative reuse and the spread of cliché. Early, clumsy work is visible at <https://dictionary.herokuapp.com/bigrams/>

In narrowly attending to poetic diction, I further the separate concerns of critical bibliography, historical poetics, and the digital humanities. The poetry published between Milton’s *Paradise Lost* and Wordsworth’s *Prelude* has a surprising, abiding relation to our present, which I would further stipulate both by describing early quantitative studies of poetic diction, which belong to the pre-digital history of the digital humanities, and by considering and sharpening more recent critiques of Google’s Ngram Viewer and related research in so-called “culturomics.” I propose a major overhaul of date-of-first publication metadata organizing important text collections (current efforts at “macroanalysis” are as much stymied by bad metadata as by bad OCR [Optical Character Recognition software], especially in the eighteenth century). Thus far I have proposed to work in the mainline of digital humanities. But in the wake of the 2016 election, poll aggregation, statistical panic, and the wrongheaded claim that big data augurs the end of theory are overdue for *détournement*. With tongue pressed in cheek, I am planning to adopt and travesty econometric methods in my study of the neoclassical culture industry and its “poetic coinage”—the period’s favored metaphor for making new metaphors. (The trope survives in the poet Vanessa Place’s recent assertion that “Poetry is a kind of money,”—a line stolen from Kay Ryan.) New-minted phrases wear out in circulation, becoming stale and hackneyed. By counting and tallying, I can plot the rate at which a token like “native land” (in Virgilian epic) or “finny tribe” (periphrasis for fish) lose their poetic sheen and become commonplace stock, day-old fish. Where Daniel Tiffany writes of diction’s tinsel gloss in *My Silver Planet*, it is a gloomier satirical and Brechtian underworld I aim at: laboring class verse, mechanical phraseology, and the saturnine poetics of William Blake’s “same dull round.” My hijacked neoliberal frame for neoclassical poetry brings

pressing concerns to critique: Frédéric Kaplan, for one, has identified the way Google's Adwords price even our terms of protest as part of an expanding "linguistic capitalism."

## Eighteenth-Century Dress and the Arts of Measure

TIMOTHY CAMPBELL

This paper examines the worlds of the unapologetically human scale of clothing measurement during the eighteenth century, especially in Britain, at a moment when tailored clothing was the norm for all social classes.<sup>1</sup> Perhaps no social practice of measure was as widely encountered in such richly embodied ways; and both because of the very ubiquity of dress and the intense scrutiny of specific bodily sites that fashion demanded, even the merest fractions of an inch made for especially dramatic impacts upon sensory experience. In the first part of the paper, I explore two emblematic literary examples where the metrical subconscious of tailoring, in its distinctness from other domains and practices of measure, comes briefly to the surface: William Wordsworth's "The Thorn" (with its insistent measurement of the dimensions of an almost "bespoke," body-sized natural grave) and Walter Scott's *Waverley* (with its opening, surveyor's view of unproductive, patchwork Scottish agriculture as a "tailor's book of patterns" and its central dilation on the English protagonist's fitting session with a Highland clan's "hereditary tailor" James the Needle). In the second part of the paper, I focus especially on the last years of the eighteenth century and the more immersive vision of the *Taylor's Complete Guide*, published in London in 1796. Written on the cusp of the succeeding nineteenth-century regime of universal measurement (where ells and aunes became inches and centimeters, and where one-off "analog" construction gave way to tape measures, standardized sizing, and mass production<sup>2</sup>), the *Taylor's Complete Guide* self-consciously presents itself as a repository of the "different maxims of measure and making" that lie at the heart of the craft of tailoring.

While the *Taylor's Complete Guide* thoroughly outlines a praxis for an embodied regime of measurement, it also explicitly aspires toward a "theory" and "system" of the same, one that occasionally, wryly approaches the level of metaphysics.<sup>3</sup> As the authors (a "Society of Adepts in the Profession") note, in a variation on a theme repeated throughout the text, "We write for the general good, and are conscious of meeting success in the minds and sentiments of the truly liberal" (46). Their ultimate aim is that "all the world may be improved, and human nature receive its pristine Grace and Elegance" (4)—

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<sup>1</sup>As John Styles notes, "Because personal identity and reputation were so tied up with the way clothes looked, even poor people expected to have their outer garments made up by professionals. As a result, replacing those garments required commercial transactions not just to acquire fabric, but also to have it cut out and assembled by tailors and mantuamakers" (322).

<sup>2</sup>As a unit of measure, the "ell" did have reference to a reasonably objective standard. The brass standard ell kept by the Exchequer in London supposedly dated to Elizabethan times. But this measure widely varied in practice and was not codified in law. Moreover, as a unit of measurement specifically applicable to dress, the "ell" applied to the length of cloth purchased rather than to the specific measurements taken for fitting dress to a body.

<sup>3</sup>In part, this practice-centered, eighteenth-century discourse of measurement paints in a new light the more familiar, quasi-satirical mode of fashion metaphysics (emblemized by Thomas Carlyle's *Sartor Resartus* but extending through the writings of Edward Bulwer Lytton, Honoré de Balzac, Charles Baudelaire, Stéphane Mallarmé, and Walter Benjamin in the long nineteenth century).

with the added suggestion that dress has an especially important role to play in the elevation of “human nature” in being directly seated upon, and socially inseparable from, the human frame. In line with this liberal project, the *Guide* abounds in playful touches of broader appeal—from the Shandean titles of chapters like the “Dissertation on Coats” and the “Theory and Practice of Breeches” to the many amusing anecdotes of bad tailoring gone wrong.

Crucially, as these relatively clear examples of sartorial error begin to suggest, the “general good” the *Guide* aims to do will be visible not just to the specialized, technical eye of the craftsman but to everyone—especially because, in the special case of dress, everyone has the requisite experience of constant judgement. And to take the *Guide* at its word, it has as its ultimate object the refinement of this common capacity for visual attention to dress. For in contrast to poor practitioners of the art, the skilled tailor produces or proliferates elegant object-driven “Incidents” that can “facilitate” the fuller development of an “Eye” that has “its correspondence in all that is just and beautiful”—one that will eventually be possessed enough of “habitual nicety” to “discriminate” at a glance between genuine “Grace” and “extravagant whimsies” (5).

As a practical document, the *Guide* is of course preoccupied with bodily measurement, and moreover comes into being at precisely the moment when an old and longstanding order of measurement in dress began to be eclipsed. For most of the eighteenth century, as Clare Haru Crowston notes, “No standard measuring device existed for measuring bodies [...]. Lacking a tape measure marked in inches or centimeters, the seamstress or tailor used a long strip of paper” (specifically denominated a “measure”) in its place. Each of the measurements a tailor required to make a garment would be marked in notches on the strip of paper “with a cut of the scissors” (147). And by making one such “measure” for each customer, tailors could keep on hand a ready, precise record for use in producing new clothing—one that required no other point of reference than the client’s own body. The foremost sign of the new regime in dress, the adoption around 1800 of the modern tape measure (i.e., one ruled in standardized units of inches or centimeters<sup>4</sup>) soon ushered in a paradigm shift in the ontology of measurement that radically decentered the physically present body. But during the eighteenth century, an allowance for individual variation—even as a means of aspiring to the latest fashionable norm of a silhouette—remained both an ordinary entitlement and a particular kind of knowledge carried in the hand and eye of the experienced tailor.<sup>5</sup>

<sup>4</sup> However abstract and imprecise in practice, the first physical reference point of the meter as a unit of measure (fixed in France in 1793 as one ten-millionth of a quadrant of the earth’s circumference running through Paris from the North Pole to the equator) raises its own set of fascinating questions for our own ecological moment by meting human bodies in fractions of a planetary body.

<sup>5</sup> With particular attunement to the nineteenth-century context of sartorial measurement, Alison Matthews David emphasizes how the medicalization of bodily variation as “abnormality” interfered with the capacity of eighteenth-century tailors (or observers like de Garsault) simply to take bodily “quirks” or “flaws” “in [...] stride” as part of the inevitable continuum of variation in bodies (142, 146). As reconceived in light of the new regime of statistical analysis of social life, nineteenth-century tailoring increasingly functioned as a thoroughly mathematical, “geometric exercise” that viewed the human body as a “conjunction of parallelograms, double curvatures, and points on a graph. The garment [the nineteenth-century tailor] constructs for this fictive person is equally abstracted, and cloth is conceived of as a planar surface upon which he performs

In works like the *Guide* and François-Alexandre de Garsault's *Art du Tailleur* (1769) (from which the *Encyclopédie* borrowed heavily), this more robustly embodied sense of measurement was explicitly juxtaposed to what could be tracked in a simple, linear fashion, even by the customized paper "measures." Yet despite all the ways in which the *Guide* preserves length itself as an elastic quality, as a specific event in the history of measurement, the *Guide* does not entirely escape the newer regime of standardized units. Although the starting point for measurement remains the body itself, standardized units of measure intervene as a language of adjustment for these more direct bodily measurements. Often this applies to the extra cloth that extends just beyond the initial, non-standardized measurement of the body's dimensions—the extra allowance ("one inch" broader across the shoulders, "two inches" longer in the back, a "full inch" more in the neck) needed to give the body room to move or to receive the elegant supplementation of natural form that well-draped fabric accomplishes. Like the historical bodies that wear it, then, the cut cloth addressed by the *Guide* sits between these two regimes of measure; and in this liminal textile space of metrical adjustment, these regimes come into direct contact.

Because of the precision with which dress was made, experienced, and observed in the eighteenth century, this specific legacy of measurement also persisted well into the twentieth century—most notably as a privileged realm for quantitative fantasy licensed by the exceptionally complete evidentiary trail of small changes of dress across time. The millimeter by millimeter rise and fall of décolletage, waist width, skirt length, etc. featured prominently within the early stirrings of the quantitative social sciences—most systematically in Jane Richardson and Alfred L. Kroeber's "Three Centuries of Women's Dress Fashions: A Quantitative Analysis" (1940), which tracked the remarkable regularity of cycles of fashion by measuring clothing depicted in fashion illustrations from the late-eighteenth to the early-twentieth century. This same measurement (and re-measurement) of dress went on to shape the unfolding and eclipse of structuralist thought in the twentieth-century academy, most notably via the work of Roland Barthes in *The Fashion System* and his other writings on dress, for whom Richardson and Kroeber's study was especially significant. But the eighteenth-century art of tailoring, however dependent upon its own precise practices of measure, also demanded great flexibility with constantly varying materials and great skill in meeting the moving target of a vast variety of body types, postures, and paths of motion in the world—which makes this socially deterministic, quantitative twentieth century afterlife a somewhat ironic legacy.

Already, the *Guide* itself caught a prophetic glimpse of this kind of quantitative vision. "What will future workmen say," the *Guide* wonders, "when we declare the difference and quick transition of fashion [...] between 1793, when we were wont to cut waists full nine inches long from under the arm down to the hip [...], and in the year 1796 we have been obliged to cut them but three inches in the same place for the length, to figures of the same height and stature?" (110). Here, a metrical sense of the rhythms of change in dress, verging on an annualized retracing of the "variegated" steps of the cyclical rise and fall of waistlines, comes particularly into view for the art of tailoring's material practi-

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similarly geometrical calculations" (148). Matthews David further outlines the numerous, hyper-technological instruments of bodily measurement developed over the course of the nineteenth century, such as Christian Beck's *costumomètre* in 1816 and F.A. Barde's *anthropomètre* (or "man-meter") in 1834 (148, 147).

tioners.<sup>6</sup> Richardson and Kroeber themselves refuse to commit to anything but the arbitrariness of dress as a subject, finally selected not “because of any special importance or interest which it may possess in itself” but because “it provides a convenient and promising set of data for a study of the problem of how stylistic or aesthetic changes prove to take place” (111). By way of the *Guide* and other texts, though, I suggest throughout this paper that dress has very often “promised” in precisely this way: even in the late eighteenth century, dress already put the problem of cultural metrics writ large under a magnifying glass. Ultimately, I turn to the fuller sense of the practice of measure outlined in these texts to explore the resources eighteenth-century work upon dress materials (visual, textual, and material) can offer in response to the renewed quantitative excess of our own digital-human intellectual moment—as a theory immersed in measurement itself as art.

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<sup>6</sup> The formulation in the *Guide* is fairly sophisticated in the way it tracks cycles of fashion that go to extremes before reverting to a mean: “By Fashions our fancies are constantly amused, by the brilliancy of every newly engendered Improvement, and our Minds become respondent for every Change,—in this gradation our understandings are passive till we arrive at the very summit of Excess, and having there regaled ourselves upon the very top, and *apex* of our fancies, we grow tired with the sameness of the Scene, ’till the fluctuating Goddess [of Fashion] takes a retrospective view of the variegated steps by which she ascended; she then modestly returns to the medium from which we started, nearly by the same progression, and when we are seated there [...], we are still unsatisfied; the Mind is not at Ease, still Fancy leads us by the same meanders, till we are seduced [*sic*] to the opposite extreme” (6-7).

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## Discussion

**Brad Pasanek:** You asked a question, so I'll answer it. I detected two questions, anyway. So the first one was maybe rhetorical, the question of, "From where?"—is that a separate question from "Whose words?" And another question I heard which was, I think, a true question: "How do you account for media, the ways in which a diagram might travel from being scratched on a piece of glass to finding its way into a miscellany or something like that, being printed on a fan?" That's a great question. So I'll take the first, the rhetorical question first, because it has an answer. And I think you and I are on the same wavelength here, which is, "Whose words?"—that's not interesting to me, and I'll take this as an opportunity to just in like three sentences sketch what I'm up to. So I take Roger Lonsdale as one of the animating spirits for the project, the way in which his sort of source finding is so impressive, because of the way it was done and when it was done, sort of before keyword search, and that there's a kind of elegiac way of thinking now that that erudition is replicable by any undergraduate who can go find all the Spenser and Milton allusions in a Gray poem.

The move I make is not... I guess, I'm not interested in this vertical dimension of going back and finding the way in which Spenser got into Milton and then that bit got into Gray. But I'm interested in a more flat or level kind of criticism, which looks at all of the common properties, so all of the poets who have some purchase on that bigram, that piece of language. And for me this is a kind of leveling or flattening activity as you described it. That seems ... that's right. And I can't decide how much this is animated by my own sense of, I don't know, nihilism? Darkness? I've been reading—

**Oz Kenshur:** Newspapers?

**Pasanek:** I've been reading Malcolm Bull, who I sort of mention in the essay... But he sort of points out—in a way that's been, I think, haunting me and bothering me—that Nietzsche's a powerful nihilist, but he's not a nihilist about one thing ... and that's aesthetics. And I'm wondering as I'm taking that poisoned pill, I'm wondering what that'd mean, as an English professor, to give up on sort of reading the good poems or trying to make decisions about which poems are the "good poems." And that's a "From where?" question; the "From where?" questions throw value aside. And then the second question I guess... This is a good question, and it's a question that, yeah, I begin to quell when I think about the poems printed on fans or on fabrics. I don't know. I mean, I can't even begin to be responsible for them. The nearest set of poems, and it's a very large set, that's just on the other side of this project are [sic] all the poems that are published in newspapers. And so I have a colleague, John O'Brien, who's working in parallel—like, he's kind of in the next office over, actually—but he has a project, and he has a team in Nebraska, and he has some graduate students at UVA, and they're trying to identify with OCR technology the poems in newspapers.<sup>1</sup> And they're at it, I mean it's... I don't know when they'll be done, but if he's done before I'm done he's told me that he'll hand these poems over, and I think at that point I'll have a large set of marked bigrams and we'll just point those at that new data-set and see. This is a mutually happy situation. I think we... I

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<sup>1</sup> [Editor's Note. See <http://projectaida.org> ]

could help him identify which poems are printed elsewhere, yeah, and which poems are printed first; there would be a question of priority then, to disentangle them. I think that answers—begins to answer, anyway—the questions.

**Tim Campbell:** I can just say a couple things in response. I mean, I first want to contextualize this by saying “this is a piece that’s sort of written with the workshop in mind,” so this comes out of my thinking about dress but also out of a project that doesn’t have much to say about math or measure. So this is what I know, what I think we could say about these problems from what I know, and I’m just picking up on a couple of things from Mark’s comments in particular. So the question of mediation and whose changes these are, like “Where do these changes come from?”—I think is one way of tackling this. And there is a big problem of mediation at the core of this, which is the fashion in the material dress object versus the fashion in the illustration—the twentieth-century accounts, they don’t get back to the material dress object. But even in the moment, you have this sense of a kind of triangulation between the tailors who are confronting what people already expect is the fashion and the plates that are in some sense responding to that too. So these fashion plates in the moment are sort of—you know, they’re almost up to date but they’re also slightly commemorative. So, there’s a way in which there’s a common form that both the visual text and the material dress object are sort of aspiring to, so I think that’s one thing that’s helpful. They don’t know where these changes come from, but... I mean, the other thing to say is the question of what’s personal and what’s impersonal... I’m interested in this problem that keeps coming up of the emic and the etic (I think I’m saying it right?). So the experiential place of the poet, the emic side of kind knowing that you’re doing allusions but also realizing you’re also in this etic place where you can’t really fully process what you’re doing—and some of this is not available to poets at a certain level. Right? I think this is... I mean, what’s interesting to me about bringing the tailor’s perspective back to the fore is bringing the emic to the foreground and the hyper-alertness of the contemporary to these things (that other people attribute to a kind of objective social reality that somehow they’re not fully aware of). So, you know, fashion is attractive to these quantitative analysts because it’s such a perfect system and because it’s the embodiment of social determination and that which is without you.

For [Roland] Barthes in particular in thinking about fashion, I mean, fashion is the perfection of system, but he says it’s doing two things at once. Right? It’s perfect disorder up close. So he [in being able to perceive a “system”] has a very etic perspective. The experience of fashion is a disorder where things change completely from one year to the next by fiat, right?—people *say* what’s in fashion. And it’s perfect order at a distance. We’re talking, like, at the order of a century here, so if you step back far enough you can see the gradations of change perfectly realized. So it’s important that fashion combines both of these features, and there’s no easy way to reconcile them. There’s a moment in Brad’s paper too—when you’re thinking about transition, the difficulty of accounting for transition—and that’s where structuralism collapses in Barthes’s *Fashion System*, right? So there’s no way to get between those two very easily. Right?

But I want to break that down by having in the foreground something about people’s emic sense of the etic (or something like that, right?) already. And so, like, with dress it’s not surprising that the output comes out so perfectly measured because it’s perfectly measured to begin with. The other thing is... just our fascination with this sort of inevita-

bility, that thing that we're so closely measuring on the front end, it makes perfect sense that it's going to look so perfectly measured at the endpoint later on. Nevertheless, the spectacle of it all seems fascinating. And then, you know ... just the novelty thing is just... To recur to Nick's paper and other things we've said: I mean, you have the exhaustion in Brad's paper of a neoclassical vocabulary, and once you've set it aside for a while then you can bring it back and it can work again, and fashion is the constant of the human body so it has that relatively simple template and you have archetypes of dress that you use for a while—in a lot of these accounts for thirty-three years, say—you exhaust it and you turn to the next one. There's three archetypes, and they just keep recurring on the meta-cycle of the century. And so fashion... I mean, fashion must be in some sense, at least—of course we're, we're reducing fashion to the most easily quantifiable features in something like dress length and waist width or something like that. In that sense, fashion must be a simpler system than words—but we're also talking about systems that, you know, they wear out their novelty and they have their own sort of temporality, and you can exhaust them sooner or later, but we're talking about limited systems of novelty, right? So just a few ways of responding, and I'll stop there.

**Jesse Molesworth:** Brad—Let me first, you know, begin by, you know, congratulating you on your digital study of poetry. I mean, there aren't that many; in the wake of Moretti, the novel has been so dominant. But at the same time I want to ask, you know, "Why poetry?" It seems, you know, every language has bigrams; one of the richest, you know, I think, avenues of criticism in the eighteenth century is the dialogue between the novel and poetry. I mean, it seems to me that, you know, I mean, you criticize Harold Bloom a bit and probably reasonably, but at the same time you're recapitulating what was the flaw in his, you know, kind of lame notion of, you know, Keats reading Milton and thinking "oh, I have to overcome that." I mean, what might be rich about this project is to show precisely how poetry borrows from the novel, which borrows from prose... and you can do that, I think, with digital tools in a way that, you know, would be impossible without them....

**Pasaneck:** You said... You know, there's a measure or there's a score, right?—the term is frequency inverse document score—so you can hold a corpus of poetry against a corpus of prose and actually measure, yeah, which are the words or which are the bigrams that are uniquely poetic and which are uniquely prosaic, and that's (along the way) something I want to try out. The reason, so the "Why poetry?" question is: it gets back to the Philistinism, the sort of Malcolm Bull's charge to sort of think outside of aesthetics or beyond aesthetics. And so poetry seems... I mean we pretend that it's the most fragile, the most delicate of forms and so I'm going to treat it in the most brutal fashion, I think, and I'm going to read it badly on purpose. So one of the gauges that I use for what I'm up to is I walk down the hall and I talk to Chip Tucker and I say, "Chip, Chip!" like, "We don't need to do prosody; we can just count the words in a line." If he looks appropriately horrified, then I know I'm doing it right. And so that's it. So what happens if we treat poetry not as metered but as just sort of, you know, paving stones—that you need to fit a certain quantity of stuff in a line? I mean, that's a way of thinking about poetry that goes back to Horace at least.

**Molesworth:** But this is the richness of [John] Guillory, Brad—is that... you know... I mean Guillory's argument is that Wordsworth draws a lot from the novel, from the language of the novel and the novel's cultural influence.

**Pasanek:** But so I think... at this point this is just a counterclaim without basis as yet. I do think there's a *system* of poetry, I want to show what it looks like, and I think part of this project is it involves a kind of enmity. It's like... My Wordsworth loathing (I guess, you know) drives, there's an animus there, and I would like to take eighteenth-century poetry and drop it on Wordsworth's head and show, you know, that this is not a language that he's getting from novels necessarily: this is a culmination of an eighteenth-century tradition. He's just the latest in that series; he's no farther up the Spenser/Milton whatever, right—ladder—than anyone else, and that his words are everyone's words.

**Fritz Breithaupt:** We haven't had many tensions in the workshop, so I will maybe try to create one. My question is really geared towards Tim, but I think it brings a couple of other things together too. And what I've noticed in the workshop in general already is that for me personally the most interesting question has become the question of when and how and to what effect numbers, measurements, feed back on cognition. I mean, when do people perceive these numbers, and what happens if they do? Is this just an abstraction that we do now as Digital Humanities? That we do this in some way, or is it really something that feeds back: the people suddenly become aware of that, and it has an effect on their cognitive awareness of the environment and how they see it? And for me that has become a question... I mean, basically throughout the workshop. I mean, we had an opening of Sarah [Huebsch]'s musical presentations, where you have a perception of it; you know these numbers come to life. I mean, there's [sic] many answers to this question; it's not a single, sharp answer, but there you perceive it. There's a cognitive difference in the numbers, and suddenly you're aware of numbers too; the numbers play a role in it, the meter and so on and so on. It was a question that I had with Michael [Gavin]'s talk about the cities and proximity there: What part of that is a lived experience, and when does it become a metrical, theoretical element of that. Or Mary [Favret]'s question. (I don't know where Mary is today...)

**Mary Favret:** behind you.

**Breithaupt:** ...of surprise. Is surprise ultimately a lived experience in the French Revolution, or is it more something where these measures and numbers are just remaining abstract? Does it become a cognitive effect?

And now so, Tim, what I find—and I'm asking you this question two ways—where does this happen? And if I read you correctly, or if I translate your paper into my question, I get a simple answer. And your answer—I like that answer!—but you can say [my interpretation] is the wrong answer. Basically so: when do numbers, these quantitative metric numbers, become part of our experience, of our awareness? Your answer seems to be, "It's in the moment where we translate them back to the body." So it's not the moment of abstraction that we can see, the moment of the cognitive act—the tailor does it and so on and so on—but it's rather when the metric systems translate it back to a more bodily awareness of it. So it's a way back from abstraction. That's the moment where the num-

bers cognitively match up. In the moment it becomes... Like, in the reading of Wordsworth's "Thorn,"—it's not when we have the metric numbers there but rather when they come to be translated back to the cause (or the dressing) of that. So that movement from numbers to body is the moment of the—of the cognitive development in that context. And so this is why I'm saying there's some tension: for some people here, it was—I mean, I took the latest statement from Brad as a polemical—"oh, no! There's no cognitive awareness that we need. This is a metric-abstractual level that we can study in itself. The cognitive effect in a way does not concern me: Wordsworth is just like anyone else in a big series... He's... there's no difference there." Which to me... I don't know; there's something different there. I mean, that is the question of, "Does it translate back into perception or cognition in some way?" It's not just an act later. So maybe we could write some papers here that could take a different stance on that. But my first question is for Tim here: How would you say that? What would *your* real answer be to the question: "How do numbers, metric numbers, re-tool cognition, or which role do they play there?"

**Campbell:** Yeah, well, I mean... it's alienation or misrecognition in Wordsworth there, right? Failure to accord with the body in some way, right? The problem with this paper is that the tailors don't have numbers. There's just no number. You never get back to the number. Right? So you're... that's why you can be in this realm where you're not so worried about it. I should say, like... I mean we should complicate Wordsworth, of course, because there is: I mean, there's number but there's also abstraction, and, like, the meter of a line doesn't seem like "number" in the sense you're describing. Right? "A difference from the world" is how Wordsworth accounts for it, or lived reality or something like that, that kind of abstraction is what Wordsworth likes. So numbers as—I don't know, maybe that makes sense of it then—is that when it comes back to the body, but "body" as, like, the thing that's reciting the poem. Right? The reader reading the meter of the poem; you *want* it in the body. So there is that paradox. I mean, the other thing about Wordsworth is—as Rachel will tell you better than I can—Wordsworth loves geometry, so when math approaches *form* it's good. So numbers, digits, might be bad in certain ways, but the form of numbers, the kind of platonic form of the geometrical, is a different story, maybe.

**Rachel Feder:** Or maybe geometry is true for Wordsworth? Euclidian geometry is true, whereas algebra is always signaling a way of knowing.

**Campbell:** And he doesn't have any trouble imposing geometry in a certain, like, platonic formal way, on the landscape. So this is the contradiction of Wordsworth. Right?

**Feder:** One of many.

**Pasanek:** Can I—well, I was going to read out some Wordsworth. So he makes a distinction (it's maybe the same distinction you're making) and I'm going to refuse it. So we can have an argument then. So here's Wordsworth, this is in a note to "The Thorn" in the second edition of *Lyrical Ballads*: "Words, a Poet's words more particularly, ought to be weighed in the balance of feeling and not measured in the space which they occupy upon paper." So, right, I mean that's a... like, "weighed in the balance of feeling" is there a

measure, is there quantification there? I mean, I don't—actually, I'm not sure of the word I want—but he does use the word “measure” on the other side of that conjunction: “not measured in the space which they occupy on paper.” I am explicitly measuring the space which they occupy on paper. That's this project. But I don't think that work is divorced from experience, so I think one of the things—and this is performative, so maybe I have to *say* that I'm doing this so that you understand—is that I've slowed down the algorithm of distant reading, right, that normally runs and seems to just churn, so that you can see there's a little man inside of it: that's me. Right? And every time I highlight a two-word phrase—I did that, right?—and there was a moment where I experienced the two-word phrase, and I savored it on my tongue, and I clicked it with my mouse, and then the robots multiply the effort. So—

**Nush Powell:** So you kind of *are* Wordsworth. ... [laughter]

**Pasanek:** Which is to say... I'll take that as a compliment, maybe, I don't know. See, I don't like Wordsworth. But it's only to say that there's still a critic at work here—it's not just a machine. And then we... I think the profession gets confused about this when they start arguing about close and distant reading. I mean: algorithms are made by people; they don't make themselves as yet. And so there's an opportunity to have some experience. I mean, if you're truly weird about it, if you're like Ian Bogost, right, the experience is down in the photo-receptors of the machine that's, you know, picking up photons. There's actual experience there according to him. I don't believe that, but we don't have to let go of our subjectivity, of our experience. Like, I want to let go of my taste, I guess. Right? So this is the minima. Like, I want to get down to a place where I'm not appraising, *per se*, but I'm still there. And shortly before I came here I read a piece—I don't know, is he here? Michel Chaouli wrote a piece about style. It's brilliant; it's really good.

**Kenshur:** He's here at the university.

**Pasanek:** Okay. Tell him I'm having a fanboy moment. But his point is that that's the, this is the mark of criticism, that, like, you know, Barthes did it—and we know Barthes did it because there's a way in which only Barthes would do that. Right? So, like, there's been this question over the last couple of days, like, “Could only Nick Paige do this?” I don't know. Right? I mean, like, for my project, like: only I would want to do this. Like, I don't know. Only, like, I'm really good at boredom, I don't know. Yeah, the horror of existence is, like, there's a kind of anesthesia involved in marking these two-word phrases that, you know, keeps me here. And that's to say not that I'm special or have a particular kind of insight, but there is some trace of me left, you know, when I mark the bigrams.

**Vareschi:** So we have two hooks, and one of the hooks jumps the queue.

**Tracey Hutchings-Goetz:** Thanks. This just reminded me of a conversation I had with Max [Nagano] last night, which was that to a certain extent you're actually kind of re-creating, reproducing eighteenth-century reading practices or perhaps even the reading practices of the “bad” eighteenth-century poets, right?

**Pasanek:** Yeah, I like that better.

**Rob Schneider:** Just building on what was said... I mean, it goes back to the first presentation on music; my comment then, what I really appreciated, it seems to me—and you will correct me, of course—that in the eighteenth century you have musical pieces that are based upon dance (sarabande and minuet) and then it seems to be less so in the nineteenth century (although we do have “dances,” but they’re not... you don’t imagine them being *danced*. The “Hungarian dances” of Brahms are not dances the way the minuets of Bach are earlier). And so it seems to me in that case we have cognition and embodiment of meter and measure not just by the experts, not just by performers, but by the ladies and gentlemen enacting that music, dancing to that music. And that’s a sort of periodicity that kind of ends... in the sense that that embodiment of dance—insofar as dances are not being produced, or music’s not being produced primarily in the genre of the dance—that sort of peters out.

But here: it’s going the other way around. Even though you say these tailors are not using numbers, there’s still measurement and awareness by not just the tailors but of the wearer of the measurement. So it seems to me that we’ve got, according to the genre, according to the cultural experience, we’ve got the movement going in different directions: the decline of the body’s sensitivity, cognition, with the numbers and an *increase* of...—So, we have to be careful with this, with a narrative which pushes us in one direction when we think of numbers and measurement as being some part of “modern” experience.

**Campbell:** There’s just a small comment, just the fixity of dress, because I was thinking of the outrageous claim that dress is the most, the best side of measurement in the moment, I was like, “What else can we think about?” It’s music and dancing but also food—I was thinking about measuring. But dress has a kind of fixity—this is the paradox—it’s, like, embodied, but you have those strips of paper that are just there and then you have the clothes that are made. Right? So there’s a kind of fixity maybe about that practice of measure that makes dress also interesting.

**Rebecca Spang:** Two hooks related to the Tim/Fritz conversation. First is to say that eighteenth-century cookbooks—and, in fact, well into the nineteenth-century—don’t specify measures, except “some.” So it’s relentlessly un-metric, and there aren’t temperatures set. So this really is a technical knowledge that is left to the body and the senses of the cook.

The other thing I was going to say with reference to alienation is an experience that I imagine most of the women in this room, and maybe some of the men, have had, which is the, being-in-a-fitting-room-and-thinking: “Oh, I’m really a size... whatever.”

**Powell:** And particularly the insistence that no woman understands her own bra size? Like, how many listicles have been written.

**Spang:** But the way in which that measuring which, you know, in fact is a sort of objective truth—you know, “I’m not going to fit into (I dunno) a size children’s 6X anymore”...

**unidentified:** Rebecca Spang problems.

**Powell:** It's a hard day for all of us. [laughter]

**Spang:** I'm trying to be as absurd as possible... But that doesn't just happen. So there is some, like, real truth there; and on the other hand, it's a completely made up system of numbers that has in fact changed over time. You know, in 1955 I'm a size 16 or something. So just some thoughts on that lived experience of numbers that come back to your body and tell you something about your body that you then experience as a truth.

**Sarah Huebsch:** Back to Rob's comment. So the gist about the dances. So the dances are still being danced, but there's a sense that there's a dance suite that people aren't dancing to and there's an embodiment to dance that they do when they're listening to it. And that persists much, there's a persistence of that idea much later than you would think because social dance (even now, but certainly into the early twentieth century) has corollaries in music.

But, for example, like a Ravel waltz that spins out of control is not one that you would dance to, but there's still a sense that you have a familiarity, I think, with the motions, and I think we can underestimate the value that the embodiment of dance has. Since we don't have it so persistently now I think we're unfamiliar with that. But so far as the bearing on your paper: in music there's a lot of consistency in measurement as far as it's there for making instruments, right, which is sort of different from the measurement of the time of the music. And you do end up with the object and the plan. And so you have the consistency of pitch and you're trying to make the same object over and over again, like a cabinet maker or something. But with dress you're making different objects and— even though it's the same person, if a woman gets pregnant or something you're still making a different object for her. How is that reconciled either in the poetry, right, or just by the tailors themselves?

**Campbell:** How do tailors reconcile making a different object each time?

**Huebsch:** Right. If they don't have measurements. I mean, do they just have other images, like, "This is Suzie before she was pregnant, and this is Suzie now"?

**Campbell:** Well I guess you've got... I guess you could come in again and get measured. Bodies change too, of course. This isn't perfection, because you might gain or lose a few pounds and your clothes might fit less well. But tailors... I mean, the rhetoric of this piece in particular, *The Tailor's Guide*, is always talking about, you're always padding or adjusting. And the other thing is, right, you're making an individual object for an individualized body, but what's *not* individualizing is that you're helping that body aspire to a general form of dress. So it's a mixed bag I guess. Right? It has to be perfectly responsive to the oddities of that body but in order to help that body conform to the standard.

**Vareschi:** Did you have a hook?



**Michael Gavin:** Yeah, I had a hook a while ago; I'm not sure if it's still "a hook"—if that's okay? I wanted to pick up on the question of experience and the affect or the experience of numbers. It seems to me ... when I heard that question, it seems to me that there are at least a couple different kinds of counting that we've looked at; there's probably more than that, but I've sort of grouped them into two. Like, on one hand you could take an already existing object and decompose it into countable parts and as we saw yesterday (I mean, no one's mentioned the discussion yesterday), when you're doing that with people, you're taking a person and decomposing them into their units of labor that strikes me as having a very different kind of effect—there's something very different at stake in quantification there, with very different stakes, [but it's] kind of similar to the task of, like, taking some great novel and breaking it into pieces and treating it as just a bag of words or something like that. You have an object that is already recognized as such and you're abstracting over it and decomposing, you're doing kind of conceptual violence to it.

It seems to me to be a little bit different from the kind of stuff Brad's doing where, like... these bigrams where if you find like eight of them, those eight instances weren't themselves an object. Like, you have to assemble that heap. You know what I mean? And then someone's like, "Much of the counting I did with my paper is about finding things that... counting things that I'm *saying* are similar and assembling them and treating them as a kind of common object." And I don't know. So I'm curious if that resonates with you guys. I mean that as a question for you actually, Brad.

**Pasanek:** I think that's right. That's part of my sense that I'm changing my dimension, so that I'm going from vertical to horizontal. It's something like that: that you would see horizontally maybe different kinds of objects. I don't know if they're being discovered or invented, right, but they're there. But the shape of them as a kind of network or as a heap is not immediately apparent until this work's been done, or until my work's been multiplied by the robot.

I don't know, this might be a non sequitur, but it's something that I've been wanting to say so I might just stick it in here. Wordsworth does a particular kind of counting which I think is interesting. It might be, like, an echt-bigram way of counting, so that he looks at the daffodils and he's like, "Ten thousand." Like, that's how poets count. Right? Or: "host." Like, "How many daffodils?" "Host." Right? And I think that's a kind of counting. Right? That's how poets count. For poets things come in tens, thousands, and ten thousands. Right?

**Mary Favret:** So ten thousand is effectively the poet's "kajillion." It comes from the Greek. So the Greek word for ten thousand is "myriad," and it really means "more than I can count." So we say—because "a million," we can count that high—so we say "kajillion" or "googolplex" or something like that. But for them, throughout the eighteenth century and nineteenth century, they say: "ten thousand." Or Coleridge will say: "ten times ten thousand," you know? But it's just a magic number. It means, you know, "myriad." So it is the poet's "kajillion."

**Campbell:** Right. And I just want to, just want to broaden the numbers to Coleridge's abolitionist writing in the same moment. He's counting up 180 million slaves, most of

whom are killed in the process of becoming slaves, and so he's using a similar kind of poetic numbering but with a kind of... you know, the devastating double charge of statistics too. So those things bleeding into one another... worth thinking about.

**Breithaupt:** A very quick response to Michael. I agree; I think we have different measures of measurement, different forms of quantification. I would stress I think with Tim a little bit that there is a human uniqueness in this. The human is not just an object like other objects, so that you take one thing as object, or a human being as object; because the human can actually experience things himself/herself—the body is not an artificial standard of measurement. So in that sense I will say there could be—I agree that is the one form: the human body as the standard of any measurement; a very andro- andro-centric view of things would be one form of measurement. And then the assembling of disparate objects that are not naturally linked: so that is probably a different cognitive act. But then you have some things in between. Like yesterday afternoon's session, we had the corpses and such. Yes, that is human experience that can be used as a standard, but it can also already be on a different order. So mostly agreeing, but with one little caveat....

**Campbell:** Can I, just making explicit something very obvious, of course? But feet, we're talking about feet and they're... I mean, at some point that's someone's foot. There's a gothic haunting by other bodies from the past that then becomes our abstraction; and ells (fabric measure), elbows.

**Roberts:** Just to come at this from an outside perspective for a moment, I'm thinking of conversations I've had recently with my graduate students, and I have a number of them now starting to work in the seventeenth century and ... I guess this is a comment on the "myriad" idea. They come to me so often with these numbers they draw from seventeenth-century sources and they say, "Well, I've got a specific number" (because I am always saying, "Can you quantify this?") and I'm always having to say to them, "These numbers are... they're much more like adjectives in the seventeenth century, ways of describing. They're not numbers you should be trusting at all."

**Favret:** They're words; they're words.

**Roberts:** Exactly: they're words. Because the numbers are just wild. And I think one of the most wonderful examples I have is from a Spanish conquistador who was describing the Aztec skulls that he sees, and he comes along and he says—it's Bernal Díaz—and he says, "As we were moving through Tenochtitlan we saw this rack of a hundred thousand skulls," and then he says—I think he says "136,000 skulls" or something like that—and then he goes on. And I remember one of the students in class one time saying to me: "How did he count those?" And I said, "That's the point; he's not. It's just ... this number is some sort of way of assigning a word to what he sees. It's an exaggeration to stress a *qualitative* idea. It's not quantitative." And see, then a very different sense of numeracy emerged in the eighteenth century. And I'm struck by the fact that even unconsciously I won't critique students for numbers they draw out of eighteenth-century sources as much. I'll say, "Okay, well that's when numeracy changes and people's ideas about how to use

numbers change. And these are more precise,” but any they bring me in the seventeenth century I’ll say, “Eh, I’m doubtful.”

**Vareschi:** Nush?

**Powell:** This is a question, not a hook. Is that okay?

**Vareschi:** Mmm-hmm. We are onto questions.

**Powell:** Okay. Great. So to preface this: Brad, I’m sort of, kind of half a surface reader and like many people I’ve sort of struggled with finding digital humanities fascinating but ultimately not really knowing its purpose, but I find this electrically clarifying, what you say. Like, the purpose is “to get rid of Wordsworth”—thank you for that, that was something I needed to hear. Furthermore, my friend and colleague, Jesse Molesworth, is someone I respect tremendously. So I want to go back to his question or comment, which I will summarize as, “Blah, blah, blah novels.”

**Molesworth:** That’s my entire career corpus of criticism.

**Powell:** I know! And you can get a lot of good stuff out of “blah, blah, blah.” Good for you. Yeah, I’m a genre person, not a novel person, but it’s kind of a funny thing to be *in* the eighteenth century. So you go back to the seventeenth century where we’re not really sure that they care about numbers; in the eighteenth century, they don’t really care about genre and that’s something that we impose. It’s not that there’s no concept of genre in the eighteenth century, but they’ll sort of pick it up and put it down again when something more interesting comes along. So my question is, “Blah, blah, blah theatre.” Like... Here’s the problem with talking about poetry in the eighteenth century: What even is poetry? Right? Like, what about acrostics and anagrams? But also, like, what about John Dryden’s Godawful two-part *Conquest of Granada* written entirely in heroic couplets. Like, it’s certainly verse, and I love what you do with [Simon] Jarvis, by the way, in this piece because I use Jarvis to kind of justify my own theory of pedagogy when it comes to poetics—I kind of reject and then reverse [him]. So I think that’s a distortion that D.H. has yet to really grapple with very well, is like, “Okay, but what even is a novel?”—I don’t think it exists. And Moretti just... you know, he doesn’t have a satisfactory answer for that. What is poetry? And you can try to come at this the way you’re describing John O’Brien doing which is like, “Well, I’m just looking at verse that appears in newspapers.” It’s like: “Okay, those are boundaries that we can kind of see and draw; although then: what is a newspaper?” You know, you can kind of follow turtles all the way down here. But I am wondering, how do you go about determining what is and is not a poem? Like, I don’t care about good poem/bad poem/medium poem, but, like: what counts as a poem?

**Pasanek:** So my bad answer is—I think it’s in my paper, but it’s brief—it’s just, so it’s “words stacked verse-wise.” Right? So Dryden’s verse drama would count. And the DH take on this would be, “Are there lines and line groups?” So is the tagging such that the text doesn’t hit the margin and keep running? Does it get cut somewhere? And if it gets cut somewhere it’s verse for me. And that means, yeah... So when I, like, suck verse out

of the TCP archives<sup>2</sup> I get everything that's got line tags around it, and so some of those things are epigraphs and some of those things are, I don't know. And some of those things I'm not even sure, it's such a zoo, I don't even know yet. Some of those things I might decide are not in verse form. I think my sense is if it's got line group or line tags kind of on it then it's verse. And that's something about how it's appearing on the page.

**Powell:** Well but then you do have... to go back to "blah blah blah novels" ...

**Pasanek:** Right. So I'm going to get the verse out of novels too, because that suction just pulls, like, it will pull the verse out of all the novels too.

**Powell:** Which is excellent; pull it all out. But, I mean, there are also—I mean, not tons of them—but there are moments in novels where there are line breaks but it's not for... Like, you know, the rape scene in *Clarissa* or, I mean, the aftermath of the rape in *Clarissa*. I mean, you could argue that's poetry... Maybe a better example would be, you know, in *Captain Singleton* there's this great moment—it's great because there's no real reason for it. But, like, towards the end of the novel when William and Bob have decided to kind of like abscond with all the pirates' money they leave a note telling, like, the first lieutenant, "Run!" you know, "We saw a ship!" and for whatever reason this little two-line note is, like, offset in the... and there's no reason for it, because: Defoe. Like it's not important, it's not poetic. "Run, Ensign Williams!" Like, it's just, like, kind of in there in the middle of the page. And of course, like, any reproduction of the novel because, like, Defoe chose to do that, you reproduce the weird typographical whatever's going on. So it's interesting that one of the effects of what you're doing is to take that "I don't know what it is" and basically, like, mark it as verse.

**Pasanek:** I'm going to overmark, and in some cases I'll undermark, I guess. I mean, it'll be interesting to know; I'll have to check to see if *Captain Singleton* made it in. There's another intelligence here, right.

**Powell:** Actually, let me know.

**Pasanek:** Yeah, yeah, I mean, that's interesting. There's another... I would guess not, because one of the ways those tags got on the TCP texts anyway—and this is different depending on what archive we're talking about—but right now I've mostly just been working with the TCP archives and there was another human intelligence preceding mine (somewhere in Hyderabad or Manila or wherever) that keyed the thing and they were told to put the tags on. So I don't know what the structure of, you know, management was, but it could be that, like, somebody was wandering around in this warehouse as people were typing and saying, "No, no, no, that's prose. Don't use the line in coding." But it's certainly... I'm getting epigraphs for sure, I know that. But I'm just starting, so there's a lot of stuff and I don't even know what's in there. It's rather woolly.

**Powell:** It's fascinating.

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<sup>2</sup> Editor's Note: <https://www.textcreationpartnership.org/tcp-ecco/>

**Pasanek:** But yeah, I'm sort of excited to get... to be surprised by things that I don't think are verse appearing as verse, yeah.

**Campbell:** And just a quick—Wordsworth sometimes says there's no difference between poetry and prose, so he's kind of on your side.

**Pasanek:** Maybe, yeah. So I like to perform, you know, the loathing; but he's not *that* bad, maybe. I don't know. Maybe it's like in nineteen.... You know, in 1796 we could still be friends or... I don't know, like, maybe, but it'd be a strained relationship and I think I'd give up on him at some point.

**Vareschi:** Just a quick note on genre: Theater is the place where genre *does* matter. On playbills, on cataloging, at least from Kirkman. So in the seventeenth century, genre is the marker and the defining term for the theater, more so than author, even sometimes more so than players. So that is the one space and I mean, yeah, we can talk more about that offline, but we have a hook.

**Hutchings-Goetz:** Well that was precisely my hook, which was that I'm so glad that you're doing theater also, because to not include *Tragedy of Tragedies*, right, *Tom Thumb*, in this, right? What is that if not a heaping of bigrams. Right? It's bad poetry, you know—"Ten thousand giants before the"—you know, right? So I'm so glad that that's included in there.

**Pasanek:** A lot of songs... songs tend not to have bigrams in them, so that's a very early kind of observation. So all the airs that appear in different semi-musical/semi-operatic theater....

**Powell:** Do broadsides make it in?

**Pasanek:** No. So it's... I mean, I come to these premade archives, and so I guess I could go and try to visit the broadside archive at Santa Barbara and suck that in to. I don't know if that'd be, that's the, if it's like a Hoover-like way in which we can go about this.

**Nick Valvo:** So this is a question that's kind of in the same spirit as Nush's, maybe. And I want to think, and I want to include both of you in this, I think it could be interesting, I hope... And this is a question about occasion or topicality, which is in some sense so hostile to Brad's project, but I think actually (maybe, kind of) comes around the other side and becomes interesting again. I'm wondering if one way of thinking about the arrival of new bigrams—which you will discover in this thing, right? there will be ones that show up for the first time—and I'm wondering if that ends up giving you a kind of quantitative approach to the problems of topicality which have kind of haunted our profession since its origin. You know, where all of a sudden some historically recognizable individual arrives, like all of a sudden Admiral Nelson is in a poem. You know? But I also wanted to think about that in terms of clothing. And, you know, I've read Ribeiro and she has all of this interesting stuff about topical prints for fabric that have sort of like... you know, like wearing a gown that has like a balloon on it. You know what I'm talking about? But also

so many of these actually-existing garments that people have are being remade from the same stuff to suit—I mean, this is my understanding—to suit the changing fashions of, you know. So you’ll have a dress that’s been recut three times, for instance, over four years, perhaps for different individuals, and it still has a balloon on it. Like, do you see what I’m saying? And so there’s this way that there’s this kind of weird, gradual kind of dissolution of the referentiality of that garment that’s this... I don’t know, I haven’t read your book yet but I’m really excited to and I suspect you have something really smart to say about that. So that’s my question.

**Campbell:** So yes that’s true. So, I mean, one of the things to say—it depends on what dress you’re talking about. It’s true that dress is often modified. It’s particularly true as an archival problem for us that almost all eighteenth century dress has been modified, so it’s hard to know its original state. Those are just generalities. Like the specific referentiality, I mean, I guess one of the—I’m not thinking about topicality, exactly, I don’t...—but just, you know, things like printed textiles that are more minutely in touch with a kind of micro-moment of fashion. I mean, those tend, especially if you’re looking down the social spectrum or something like that, it tends to: the poor get tailored clothes but only every once in a while, special occasions in life or something like that. So maybe if you look at the community of the poor there’s enough people every so often about to be married so they have fashionable clothes that there’s still a kind of sense of it. But we’re talking—you know, people do buy handkerchiefs once a year and those kinds of things. They’re also the things that wear out quickly, so there is kind of built into the system, like, the more immediate and ephemeral does tend to appear more in the exhaustible accessory clothing item.

**Valvo:** At the Walpole we just saw a silk handkerchief with basically a political cartoon printed on it about the performance. I mean, does that interest you at all?

**Pasanek:** It is interesting to me. I’m not sure what to do with... I mean, I don’t yet have a set protocol for identifying modifiers, I guess, so there are some that I’m not sure I want to mark them or not. So I know that I don’t want to mark possessive pronouns. Those are uninteresting to me. But that’s a modifier that would go in front of a head, like, “her” dress. But I’m not sure what to do with other kinds of possession. So, like, “Nelson’s victory,” right? Something like that, I don’t know; I haven’t started yet... for sure. Right? Like, at some point I have to say, “Go!” and I will clear the database, bring the poems in and the timestamps will start marking this project in earnest, but I need a protocol first in order to do that because I have to keep doing the same thing the whole time that I’m marking bigrams. So I don’t know. I would take it you’d want me maybe to mark “Nelson’s victory,” right?

**Valvo:** Oh, I don’t know if I want that. Like, I’m wondering how you’re thinking about it.

**Pasanek:** Yeah, I’m not sure how I feel about it yet, so this is one of the reasons I’m here. Please help me.

**Valvo:** It might be that one of the positive things about your project is that it gets us away from caring so much about immediate referentiality that, like, and just being *Tale of a Tub* again.

**Pasanek:** Right. But then we have, so, like, “Athena’s white arms” or something like that, or... no, it’s “Juno’s white arms.” Who has white arms? Juno, I guess, typically, yeah, yeah, yeah, which is a different kind of piece of diction that maybe I do want. It’s like maybe that “ten thousand” which, yeah, as I was looking through modifiers I was like, “Oh, they’re all sorts of numbers in here, but only certain numbers,” and the numbers I think I want to mark are because they struck me as being poetic. I don’t know.

I have things I want to say to Tim. Am I allowed to do that? I don’t know, but the one is, like, there’s some set of subterranean quotations we can pass back and forth. Like, one of them is “language is the dress of thought”... but there’s this other thing that I just, it came up in a grad class a couple weeks ago. So it’s—and I didn’t know about tailors’ hells—but the tailors’ hells, can you tell us more about this? It’s like this space where all these scraps and ribbons and bits go, and it’s used in the eighteenth century to talk about poetic diction and recycling. So there are critics in the eighteenth century who are thinking about those last bits and scraps in terms of fabrics that are being then re-stitched together crazy-quilt-like. And I know, like, from Stallybrass’s book,<sup>3</sup> that dress and fashion in the theaters—there’s some ecosystem that goes, like, “Wealthy woman buys dress, gives it to servant, winds up on stage” or, I don’t know, maybe “starts on the stage,” whatever—but there are these, like, pieces of fabric are descending in some way but they are actually then sublimed into paper when the rag pickers get them, and they’re turned into the medium on which these poems are actually printed, so Stallybrass is like: “This dress is there and then, like, twenty years on it’s actually the thing that the play is printed on,” which is for him a really nice kind of ecosystem. But I don’t know. So that kind of circle I like.

**Campbell:** Yeah, the theater’s a particular site of remainder too because they keep old clothes for a long time and then they end up having clothes that still have gold in them that are better carriers of value than—so yeah, we’re also talking around, like, the delay, the remainder, the un-levelness of the world of dress. For instance, when you look around your...like with poetry, that’s partly old and not just “new.” And so what I didn’t cite—because you asked about the commemorative in particular, but, I didn’t say this, and this is partly the last book—but when you’re talking about contemporary dress you’re also talking about, like, talking anecdotally about the portraits of your ancestors all the time, and you’re always marking what’s right now against what was. But the hyper-alertness to the contemporary that fashion produces for everyone (even if you don’t have the newest dress) makes you more alert to the variegated world. So even though there is old stuff around, you’re more alert to the fact of how precisely old it is. Right? So these cycles, you know, as they’re depicted in the fashion plates, it’s really selective; but that selective basis point gives you a perspective on the world and on how old things are.

**Vareschi:** So next on my list I have... Mary? No? Nick Paige? Wait—is there a hook?

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<sup>3</sup> Editor’s Note: Ann Rosalind Jones and Peter Stallybrass, *Renaissance Clothing and the Materials of Memory* (Cambridge University Press, 2000).

**Whitney Sperrazza:** It's not really a hook, but I would feel remiss as a representative of the early modern period in the room not to mention—this is off your comment, Brad—about the tailors' ... was it the “hall”?

**Pasanek:** “Hell”? I think it's hell, as in “an infernal place underneath where the tailor works and sits.”

**Sperrazza:** Right. So you mentioned this is brought up in the eighteenth century a lot to talk about, like, scraps of poetry. Margaret Cavendish talks about it in relation to her *handwriting*. And so it goes back kind of to Fritz's point about embodiment, and it's really an interesting moment where she's really materializing the labor, the bodily labor time of the poet in a way that resonates with what you said.

**Nick Paige:** So I just had a comment and a few questions. And so my first comment is that after Rachel's paper yesterday I was convinced that for my personal edification I needed to read Wordsworth and now I don't need to read him anymore, so thank you both for that cycle. I guess my question would be, “How would we actually put together Brad, your project with what Rebecca and Simon talked from yesterday?” I mean, isn't there kind of a question of surprising-ness in terms of the bigrams? Right? I mean, in one sense you're kind of, you're tracing the spread of not quite topoi—I mean, right, at one point you call them clichés—but, I mean, is there a way in which we could actually analyze diachronically how surprising poetic diction is at any one period. Right? I don't know how that actually ... I couldn't grasp all those surprising equations and so on, but that kind of strikes me. And then I just kind of have some questions about your protocol. So in your metadata—so when you mention, right, correcting for first date of publication, then presumably you also keep track of which occurrences are occurring in reprint, right, and then do you do things like also try to indicate whether a poem is parodic, for example? You mention the problem of parody. Are you going to keep track? I'm just kind of wondering then to what extent you're going to be able to go back in, if you're going to be able to say, “Okay, so this is... so if we look at what's going on including reprints, we see we've got this kind of spread of a given bigram but then if we cut that out and only take new poems, we see this; if we take parody out, we get this...” and that sort of thing and maybe it would be actually interesting to then... “okay, dramatic poetry does this...”. I mean, I would imagine there would be so much traveling between dramatic poetry and, say, lyric poetry that you wouldn't really have a problem or a difference. But anyway, I thought it was a fantastically interesting project. The melancholy nature of it, there's an aesthetic—the kind of lived-reaction to numbers, that you seem to live them as this kind of spiritually deflating experience into melancholy, right? Whereas for me, I observe things going up and down and for me there's this relief that, you know, our individual labors aren't that important. [laughter] This is, like, completely antithetical to that whole affect for me this kind of scholarship produces, which is one of my own just kind of—I'm just in the wave, in the wave going through. But it's not melancholy for me, but for you, you have the heaps of Josephine Miles's documents there so that's, like, really kind of weighty. Anyway, that's a lot of stuff, but I guess the important thing was a question on exactly what your protocols are and then the part about surprising-ness is just... I



don't know if you think, Rebecca—what you would make of it, coming out of your study, what you're working on...

**Spang:** Right. Well I don't have a strong enough sense of how Brad's material is organized to... could you do a sort of chronological slice through and make, "Okay, so here are all the bigrams from 1719/1720/1721/1722?" Yeah, well then you certainly could....

**Pasaneck:** Yeah, those measures can be applied.

**Spang:** Yeah. So then you certainly could do that.

**Pasaneck:** I'm starting... Like this is a kind of dumb DH project; that too is part of the performance, that this is a, right, like, I'm not using the fancy methods yet, but maybe on the back-end I will. And so yeah, mutual information is an interesting measure, but I feel like starting with mutual information is always alienating. Like, in my experience of talking to audiences (like, who are not DH audiences), I like to deflate first. Right? Which is like, "I'm not doing anything we don't already do," which is, like, "You underline things; I hit them with my cursor." And, like, look at what Josephine Miles is doing. She did this first and she's a champion close reader. Like, that's what I'm doing.

But so I think, yeah, surprisingness—it would be fun to use those measures and figure out who the most surprising poets are. That would just be fun to say. And maybe Wordsworth is not very surprising. Right? That too would be fun to say. But the question of parody is, yeah, I want to keep track of those but there's not yet a place in the database tables, there's not a line to say, "This is parody." But I do, I imagine... I mean one of the ways in which I'm going to sort poems as reprints is once I've marked bigrams, poems that share a lot of bigrams I need to investigate: I need to look at and say, "Is this a re-writing, or did the same author produce these two poems?" So, "Was this plagiarized, or was it a parody, or what is it?" But one of the ways I can check and connect two poems is if they share, you know, eight of ten bigrams, something like that. And if they're sharing eight of ten bigrams something is going on; it's not clear what yet. But yeah, that's also work for a later date, and I'm not sure if that's something I want to do automatically or something I want to do by hand.

**Roman Ivanovitch:** I had I guess a comment—this is for Brad—and some of what you've talked about is something that's going on in eighteenth-century music studies as well... which has tended over the last few years to ... to look particularly at the formulaic and commonplace, and to look at some three or four notes and kind of three- or four-note chunks and then sort of filter through schema theory. But the aim of that—I mean, it does a couple of things. One is to sort of to bring to light the everyday (sort of) quotidian language in which, sort of, great composers were embedded, but also sort of to try to demystify the music of the Mozarts and the Haydns and the Beethovens. So the project that you're describing actually sort of is very similar, at least in what I've seen, where you trace sort of the life cycle of the schema: it appears and first of all it's novel and then it sort of becomes ubiquitous and then it becomes sort of relatively rare. And it's, so it's a linguistic thing as well—it's something people no longer use or no longer have access to. It traces a sort of bell curve. And I was so struck by how that seems almost the opposite

shape from *your* description. Okay, so it'd go out of fashion, out of use, and then later on once they becomes [*unintelligible*] they return. So at least in the musical realm there's a claim that these forms become something like "common property," which at least lets you sort of explain how it is that they keep cropping up over time. So getting back to something you just said: which is when a bigram appears again is there implicitly a claim that there has to be some sort of a relationship between those two things, or is it just an accident?

**Pasaneck:** Yeah, there's a sort of... This is, like the question I still want Nick [Paige] to answer or think more about, which is: "Is *this* counterfactual—I am forgetting the term now—fiction the same as *that* counterfactual fiction?" Yeah—"pseudofactual," thank you, yeah... In the case of the bigrams, I mean, they're just graphemes and so there's so many of them in the modifier and in the head and so when it comes back it's "the same thing" and it's not... I don't know, not to sound like Derrida, I guess... But one of the things, like in the very first version of this study (which I did in, like, 2009 or something like that), I saw that bimodal shape and I keep seeing that bimodal shape. So I don't know, at this point I may be hallucinating it, but I think it's there and I think that's one of the things that Wordsworth is reacting to when he's having his freak-out in the "Appendix" and in the "Preface" because the language of the Augustan moment—the '20s and '30s—is coming back. And it really is. And it washes, I mean, he sees it coming to wash over him and I don't think he ... he doesn't want to catch that wave. Yeah, that's part of it. I mean, it's amusing that he's like, that he says, you know, "The language of Milton and Dryden" because that's the language we're talking about. But he describes that, as if it's somehow sunk beneath this other inane, gaudy, novelistic language. But, in fact, the language that's coming to get him is the language of Milton and Dryden and it's [become] cliché because the laboring-class poets, the women, the enslaved Africans who are writing verse are all using that language and they're using it in a way that looks parasitic, I think (if you're Wordsworth), but that kind of, that ability of a certain... strata? (I don't know) of poets to participate in poetry is interesting to me, and they can sound neoclassical because they go to Pope's translation of the *Iliad*: "I'm Stephen Duck. I don't know Greek, but I can memorize Milton or I can pull bigrams out of Pope's translation of the *Iliad* and I can write the same kinds of poems that Dryden does." I think for Wordsworth that's disturbing—that's part of what's disturbing him. He's going to call it "the market" (the mechanical operation of some kind of automatic force), but I don't know. I mean, it has this shape, it's coming back, and part of what this wave is is all these new voices that are using the old words.

**Vareschi:** Sarah.

**Sarah Grandin:** This is a question for Tim. So I have a question about how we bring technical sources in dialogue with literature or, in my case, art. So you do a really beautiful job of identifying how Wordsworth, Walter Scott, and *The Complete Tailor's Guide* are sort of channeling this transition in embodied measurement through this negotiation between the measured and the contingent, the unit and the body. But how are you thinking about these sources in relation to each other? Is your analysis of the rhetoric of *The Tailor's Guide* a way for you to put into words this sort of nonverbal culture of fashion and it's from there that you can sort of make an argument for how—I don't know what

the other poets are that you're planning on including—but how they're engaging with the culture of measurement?

**Campbell:** So the question is whether the rhetoric of *The Tailor's Guide* itself matters for, or speaks directly to, the literary texts? Am I hearing you right?

**Grandin:** Well, I didn't read you as saying that, it didn't seem to me that you were saying that Wordsworth or Walter Scott were reading...[*The Tailor's Guide*].

**Campbell:** That's right.

**Grandin:** Yeah. Right. So I'm saying, "How are *you*...?" You know, I see that you're reading them to make a similar argument, so I'm wondering how are you using these sources in relation to each other, and is one source the primary focus of the project? Is this about how poetry changes in the culture of measurement and fashion?

**Campbell:** No.

**Grandin:** No. Okay.

**Campbell:** I'm viewing them as mutually responsive to this elusive object of actual dress and embodied practice of measure, which is really hard to get at.

**Grandin:** Yeah, I bet. But does, are you also saying that tailors respond to poetry? Or what's the directionality of the exchange?

**Campbell:** Do tailors respond to poetry? Yeah. This is like—well I don't have anything smart at hand ready to say about tailors just going into poetry—but Rancière is the person who comes up for me, thinking about the poetic aspirations of the people who make clothes, and he has a few, Rancière doesn't talk much about fashion but there are Parisian workers who are particularly important because they're in touch with fashion, but there's a... you know, one of the things I'm exploring in that line of thinking is for Rancière it really matters that actually... someone like a tailor goes home at night and does a literary or political journal and writes things, and so he's insisting on that discrepancy. So I'm not sure I fully want that discrepancy either. I mean, that you necessarily need to have tailors talking articulately. Of course, this is a problem because then what do we, how do we know and what do we know about them? but I'm certainly, you know, happy to—

**Powell:** We know they went to plays.

**Campbell:** —I am happy to entertain the idea of tailors as participants.

**Grandin:** Yeah, I guess I'm just always also sort of aware of the difference between the treatise and practice, you know? And so it's, I... it's really... Treatises are really useful because they give us this armature and they give us this vocabulary and rhetoric, but then it obviously gets trickier. So perhaps in a way literature gives insight into—because you

use both prose and verse—but it gives us insight into practice or experience in a way that the treatise doesn't, so ... and that way there's a potential.

**Campbell:** I think that's right. Literature does fill out things. Unreliably, but it does.

**Grandin:** Yeah, unreliably, but...

**Campbell:** Possibilities, right?

**Grandin:** Yeah, yeah, they're possibilities.

**Campbell:** But this... I mean, I'm attracted to the strangeness of *The Tailor's Guide* as a sort of treatise. Right? It makes all these claims to being, to aspiring to a general audience and having kind of the "liberal arts" in mind, but then on every page it's kind of hard. I mean, it makes its bids for more general attention, but it's meant for the expert eye or someone with particular interests, because you're getting pretty intricate help with actually how to make these things. Right? So, like, there... as a manual, it can't be self-sufficient (it seems to me). So, like, who is the proper audience for this? I mean, there isn't one, and that's like the paradox of the genre, in a sense. It's interesting to me.

**Melanie Conroy:** Yeah, I had a similar question about the role of expertise and the difference between being a tailor and having, you know, clothes put on you versus, you know, writing a treatise. Because it seems (I mean, just naïvely thinking about this) it seems like there's something analogous in, you know, people who study poetry and metrics and maybe write treaties about how to write poetry and then the sort of actual, you know, use of metrics in poetry and the tailor versus, like—I really like the analogy you made to dance—versus maybe someone who can hear poetry and maybe have some sense of how the meter works, but not actually reproduce it themselves. So, I was wondering if you could talk a little bit more about the role of the tailor. Is the role of a tailor... is he more like the guy that understands metrics in terms of quantification, is he more like the guy who uses them? Like, how do you *think* a tailor would think about their skills in relation to quantification?

**Campbell:** Yeah. Well, I mean so it's not quite quantification... at least, my tailors, right, because they're measuring, but without putting a number to it, right? So, I mean, they... the posture is that they have the expertise to help you realize the look that you want, and people on the street can recognize whether it's the right look or not—although maybe not quite as well as tailors (because "tailors see even better" is partly the claim). But there is also, like, a way in which tailors are agential, crucial mediators—maybe this is something helpful?—so good tailors are supposed to discourage their clients from following the absolute excesses of fashion too closely. Right? So, you know... maybe the tailor convinces his—"employer" is the word for it in the text, right?—that he wants a different article of dress, that it should be made differently. Maybe the tailor makes this change for the person, right, without consent in this person's best interest. Right? And so, I mean, there is that kind of... So there's the technical expertise of the tailor but there's also, like, the

style expertise that comes out here a little bit, right? The tailor does foresee a little bit how quickly the most excessive extreme of the moment is going to be outmoded, right.

**Vareschi:** We have five minutes left. So maybe... rapid fire?

**Sperrazza:** Mine's not really a hook, it's a question, but that's fine. For Tim I'm wondering ... I'm just sort of tracing this genealogy from kind of intimate, embodied tailor to the standardized measure and sizes that seem disconnected from the body. As Rebecca was saying, like, we get these moments of disjunction when we realize we're not the size we thought we were (or whatever). I'm wondering what you would do with spandex. [laughter] Right? This is a moment to me where the material comes back to haunt us and takes on that sort of tailored measure form fit, right? And so I think that that... I don't know, I would love to hear your thoughts on that. And then for Brad what's been striking me as we talk a little more about the project and then reading the paper, hearing more about it... I wonder if there's a bit of a tension, or maybe a productive tension, in some of the metaphors you're using to describe the work you're doing? Because to me you're using both "flattening" and "heaping" and I think—I immediately go to Beckett on this one for some reason and I think about, you know, what happens when we get to an accumulation that takes on a new kind of sublime? So Sianne Ngai actually talks about this (Nick brought her up yesterday, I think it was) as "stuplime."<sup>4</sup> Right?

**Pasaneck:** Stuplimity, right.

**Sperrazza:** Yeah, where we get this moment where one has sort of seen the really mechanical and, you know, flat, and starts to, you know, you breathe new life into it by this sort of excessive heaping—I wonder if that is or can be part of the conversation you're working towards?

**Richard Nash:** Okay, this is for Brad. I have both a comment and a question. The question, there's a phrase in your paper that I make fun of all the time, so I will tell you that in private. The comment would be in response to your question about whether or not to use possessive pronouns, and I was thinking of Pope's talk about "But most by Numbers judge a Poet's song; /And smooth or rough, with them, is right or wrong" where "Poet's song" would fit if you're using possessives but shouldn't because that is actually a contraction to make the numbers fit because it's actually "a Poet, his song." So that would be a trigram, so you don't want to use those possessives. So that's my suggestion.

**Vareschi:** Rachel?

**Feder:** Mine's really whacky if you [Sarah Knott] want to go first.

**Sarah Knott:** I think I want to save mine for the last session. Go ahead.

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<sup>4</sup> Editor's Note: Sianne Ngai, "Stuplimity: Shock and Boredom in Twentieth-Century Aesthetics," *Postmodern Culture* 10:2 (2000).

**Feder:** So in lieu of a defense of Wordsworth [laughter] and his sense of language as bound I did a little digital humanities project with my digits, and composed a poem out of random phrases from our conversations. Will you indulge me? [see the next item in this volume]

[Laughter. Applause.]

**Spang:** And on that note, we'll end and take a break!

## Digital Human RACHEL FEDER

*Composed mid-session from fragments of our conversation, then offered in lieu of a defense of Wordsworth.*

I savored it on my tongue,  
I clicked it with my mouse,  
and the robots multiplied my effort.

That's when numeracy changes.  
There's a kind of anesthesia  
in making these phrases  
that keeps me here.

You help a body aspire to the general form.  
There's something of me left.

That's when you impose  
and decompose. Embodiment ends  
when I'm not counting.

I'm changing the dimensions.  
That's how poets count,  
with magic numbers  
and spandex.

No woman understands her broadside,  
bra size. When numbers  
come back to your body  
they tell you something  
about your body  
and other artificial objects.

There's a weird, gradual dissolution  
but the dances are still being danced.  
Gothic bodies from the past

haunt me and become my abstractions,  
my feet. The text doesn't keep running.

I find this electrically clarifying:

there's a little man  
in the machine  
and that's me.

## Number, Measure, Scale (comment)

MARY FAVRET

I don't have a summary, *per se*, but I have a lot of things—a heap of things, as it were—to say. I am not going to thank Rebecca Spang for giving me this role—I was awake all night, grinding my teeth so thanks *a lot*, Rebecca. But, no, really I do want to say it is lovely to be back at one of these workshops and to be reminded of how successful and animating they can be. I was also beguiled last night into thinking, “Wow, the graduate students here are *so* great” and then I sadly realized that I couldn't say “our” graduate students any more. But they are fantastic: poised, articulate, talented, gracious (and smart!) and I really want to say as a visitor how impressed I am by the graduate student community here at Indiana University. After having been at this institution for so long, it is strange for me, but I have to step back and dissociate myself in order to congratulate you, our hosts, for having gathered and nurtured such outstanding young scholars. They really are impressive.

When these workshops are successful—and this one already clearly has been—they work because there's a “craft” and a *techne* to it, an on-going work of fitting our different discourses together. It's a collaborative enterprise: ego takes a back seat, curiosity and critical thinking come to the fore. The all too usual academic hierarchies do seem to fade away around this table and in this room as graduate students and full faculty work together on something dynamic. For me, at least, it redeems my faith in the value of face to face exchange (supplemented, of course, with pages, slides, food, and coffee). One way it is productive is that when the Workshop is successful, disciplinary borders *do not* fade away—they're highlighted—but there's safe passage in and out. It is interesting to me that there were fewer disciplinary collisions over the last few days than there have been at some workshops in the past, and I wonder about the work of numeration and digitization in serving as a solvent of some sort? I would welcome in this closing discussion if people from different disciplinary backgrounds would highlight what they found to be difficulties or obstacles.

So let me talk about a couple of things that I thought would emerge, but didn't: the limits, as it were, to the scale of this operation. The geographical scale of our discussions was more or less limited to western Europe, with a slight detour to the Caribbean plantations. Despite Rebecca's opening gesture toward a recent issue of *Eighteenth-Century Studies* on the eighteenth century and China, the scale of our conversation was in this sense rather narrow. So too, our temporal scale. Yes we ventured into the seventeenth century and a bit into the nineteenth, but those are the standard frame for many versions of a “long” eighteenth century. And I felt very powerfully the mirroring between our own historical moment and our object of study. However, given the recent prominence in discussions of the receding horizons of “deep time” and concerns about the Anthropocene, I was surprised that these different scales of time and temporality surfaced much less in our conversations than did what I would call the miniscule: the presto rhythms of a scherzo; or the gradations of change in fashion. Everything was very fine tuned, not alert to the grand scales of time; even in Nick Paige's presentation where he said “You think you're talking about the eighteenth century, but really it's part of a *longue durée*”—well that *du-*



*rée* isn't really all that *longue*. It's partly the nature of a Workshop "on" the eighteenth century, but I thought we might have felt a longer stretch of temporality.

I also want to highlight a few themes, turns, threads that did run throughout. I was struck by the recurring drive toward a dyad of certainty-uncertainty, that sort of asymptotic verging toward closer and closer approximation. As if (*as if*) that was what scholarly endeavor were necessarily grounded upon—some running after certainty and measuring of uncertainty. I understand this as one way eighteenth-century concerns mirror our own contemporary ones. Because I am an "old person" now, I hear in Elizabeth Bond's letter writers who want to know how to know (their epistemological questions), our own anxiety in facing a new media ecology, a new academic ecology, where we are forced to think about how we know what we know. And I was pushed to reflect back on when I was a "young thing" and my scholarly work had almost nothing to do with certainty/uncertainty. It didn't occur to me that what I was working on had any bearing on such issues. So my question for us, I guess, is what alternative grounds for scholarship might we have? Perhaps not "certainty," but something called truth, or meaningfulness, or richness? Concerns about power, or maybe about "beauty"? Which is only to say that certainty-uncertainty is but a small proportion of the academic venture, and our interpretive work has many alternatives.

The second consistent thread was the scale of the human, a question that came up most clearly as the erasure of human labor. Data, I think for us, is increasingly the realm of the non-human—of calculations performed by machines. There was a moment yesterday when somebody asked, "You have all this information, what's your theory?" and I wonder if in our pursuit of certainties we have become wary of theory? Theory seems increasingly the domain of the human. Data is organized and managed by computers, the theory is ours to own (or disown). So the domain of the human is the theoretical—this is odd, it seems paradoxical to me: that theory becomes the venture, the risk, the gesture of intervention that is the human. And so today (but not twenty years ago), I would put "theory" beside "custom"—it is odd, and very un-Burkean, that "theory" occupies a place similar to "custom" because of their human dimension.

And in the midst of all of this I find myself touched by the glancing tributes to human hands in these papers: in the tactus, the manuscript pages of Josephine Miles, or the hand that hold the needle, the whip, the oboe, or the infant. But beyond the hand—which I think is a familiar place to go for human agency—I want also to think about the rhythms of poems and music that we carry within us. At least in the eighteenth century, these were not just printed on pages, or even performed and then walked away from, but they were carried in the body. They were memorized—you remembered songs, verses, prayers. So the body was a container for a number of rhythms and measures. What other rhythms were in these veins and bones? How do we track those measures, those lived rhythms? Elaine Scarry wrote long ago about body counts, reminding us that we count with our bodies—we use our digits, and that's why we have "digitization" as we know it. If you look at histories of numbers, number words at the beginning were all scaled to the human body. That bodily register is still there.

Eighteenth-century mathematics descended in part from the stars. It was the astronomers who came up with many of the mathematical theories that mark the eighteenth century. One of them is the law of large numbers (which underwrites so much statistics). Earlier thinking about large numbers was that if you put more people in the room, you

would just multiply the errors—my error would be added to yours, my error would be compounded by Jonathan Elmer’s error, etc. etc., and we would just be making more and more mistakes. But the Law of Large Numbers says “no, no, that’s not true”—the larger the number, the more you can eliminate error and approximate truth. And this all started with wanting to measure the stars—a celestial gesture. That numbers would reduce human error and that the more humans you had the more error would be reduced seems a wonderful thing and makes a workshop like this useful—and there’s a part of me that wants to hold onto that idea, that humans correct each other. That you don’t have to associate “the human” with error.

What I heard yesterday, in various resistances to the ocular-centric characterization of the period and in Fritz Breithaupt’s question about the feedback of number and measure to the perceiving body, was a call for a richer phenomenology: how people experienced changing rates of change, changing registers of scale. Not just how they strove to order these experiences (through the ordinal functions of number) but how people in the eighteenth century encountered its disorders—the discrepancies of various scales, the clashing of registers (parish, parterre, toponym, surprise). Additionally, there seemed to be a desire to make felt the labor (the work) behind the numbers. Print hides labor just as much as numbers do, or as coding does. In this case, I take Josephine Miles (in Brad Pasanek’s paper) as indeed extraordinary: because she shows how “fanatical” and “heroic” this work is when performed by a human without assistance of Artificial Intelligence. Like the women who did the calculations for the NASA space program, and were forgotten by history until the recent film *Hidden Figures*.

My question is whether the desired return to the body—what the people I study call something “proven upon the pulses”—whether that impulse is produced by the removal to the level of abstraction. The Romantic impulse for embodiment, Wordsworth’s meditations on metrics and action: did these in fact *require* an abstracting notion of measure or pattern? In other words, is it possible we don’t experience the body until we have been disassociated from it, alienated from it? That we can’t perceive it until it has been taken away, until it has been modified and returns to us in another form?

So then, finally, I want to talk about affects. When Malthus wrote his treatise (Mary Poovey tells us), it wasn’t until he started putting in the charts that people got really enraged. And their rage, as Poovey tells it, was because they saw the charts as “bloodless”—Malthus’s bloodless accounting provoked a visceral response; bloodless-ness itself inspired full-throated anger and rampant anxieties. So one of the things this tells us is that numbers are not emotionally neutral things; there are affective and aesthetic registers of numeration, scale, measure. Numbers may be “bloodless,” but our response to them rarely is.

I noted distinct performances of affect in this workshop (even more so than in the workshop on affect and feeling we had a couple years ago). There was Nick Paige’s statement of relief at the impersonality of his graph, there was his characterization of Brad’s position as “melancholic,” but there was also the excitement that I think both Rebecca Spang and Simon DeDeo felt of something dramatic emerging (an “Aha!” moment) in their work. Someone talked about the “minimal” affective cost of interest and there was reference to Sianne Ngai, but also something was said to be “electrically clarifying.” So it seems to me that the discussion of abstracts such as numbers, measure, and scale has enabled—maybe even required—a real performance of affect, a heightened reg-

ister. I don't fully know what conclusions to draw from this, except perhaps to say that we all need to perform our humanity more in these discussions.

One way to focus this might be to go back and look at the images, the visualizations we were offered of these various numbers and measures. Michael Gavin gave us clouds; Nick Paige gave us graphs—what happens if we look at these not as bearers of information, but as images, and think about our affective response to them?

I am particular interested in the white spaces of those images (and others)—how do we read them? I did not personally experience “relief” at Nick’s graphs. I kept thinking about those zigzagging lines, and I can’t help but think that the white space was housing some force, some historical force, pushing and pressing those lines around—I saw it as a landscape, with land masses being pushed up or pulled down by unseen tectonic forces. Or we could see the white space as an unmarked environment, how ever antiseptic. It’s not the environment that Gilbert White delicately articulated when he described his parish, it’s not the environment of the dunghill that Wharton suggests. It’s a different sort of environment and it is worth asking what environments—invisible or blanked out—surround and produce these numbers. So if we have the environment of French novels or of English verse or of letters in the *affiches*, then what is the white space? What isn’t being represented, what can’t be represented? It registers, I suspect, all the uncounted—heaps upon heaps of them, bordered by a just barely visible line. And so that makes me ask about all the slides that weren’t made, the “loser slides” (to borrow Pasanek’s borrowing from Malcolm Bull). What would happen if we could look at them? The slides we did see ask us, I think—and ask in a very powerful way—for us to look at what we cannot see. As critics, we have to attend to what we cannot see, what we cannot count or cannot hear: the silence between the beats, the blank allusion to what we still do not know.

## Discussion

**Oz Kenshur:** Last week at a meeting of the local people, I suggested that everybody needed to read Voltaire's *Micromégas*, but I suggested that because I was thinking that the issue of scale was going to be much more prominent in the readings this week than it actually was. Because, you know, in *Micromégas* you have gigantic interplanetary, interstellar travelers and, you know, this incredible difference in scale, between them and puny Earth and puny Earthlings. And it turns out that the reason that I suggested *Micromégas* didn't pan out in terms of the actual discussion; but there's another aspect of *Micromégas* that's extremely relevant (it seems to me) and that is the issue of data versus theory. And what I'm thinking of is the fact that in Voltaire's text, the gigantic travelers keep conjecturing about what they see and they're always wrong. Right? When they finally see whales they think the Earth must be populated only by whales. And anyway it's a critique of what...—we would say it's a critique of conjecture, but in fact it really represents a strand of eighteenth-century thought that goes back to Bacon and his pure inductivist model and it goes back further to Newton (to the appropriation of Newton's famous line: "Hypotheses non fingo"). In other words, what Voltaire is doing is making an attack on theory and on hypothesis formation, and I think it would be useful given the various historical developments that we've been looking at... I think it's useful to remember that there's a large strand of eighteenth-century thought coming from Bacon which stipulated that the data speaks for itself. And that when you try to theorize about the data—or, to use a more precise term, to "hypothesize"—you would keep making mistakes. And so it seems to me that this goes against the kind of historical evolution that sometimes has emerged in various discussions here because basically it serves to remind us that a good part of the eighteenth century thought that the data spoke for itself.

**Rob Schneider:** I'd like to pick up on the comment by Mary (which I thought was extraordinary) about—to rephrase her—about experiencing bodily measurement or tempo as requiring a moment of disassociation, disembodiment. What I was thinking about that was in relationship to dance and music but also in terms of something you didn't mention: the military, military organization, military formation. Marches, regimentation, all of that was extraordinarily important to world history especially in this period when you had the sort of tail end of the military revolution and where the march as a musical genre becomes more prominent (which has its own duration). The idea of this sort of embodiment which requires measurement, tempo, regimentation—which we think of being in a sense natural, insofar as people respond to beat and tempo almost naturally—but here it requires a breaking down of one's natural disposition. And of course that is what basic training's all about: in order to become a soldier really with a different kind of body or different kind of reception to tempo and to measurement (which I think is emblematic of a lot of things that we talked about, although of course with its own genre, that is with the body being the locus of a certain kind of measurement, tempo, number and all of that). And I just love that idea of sort of the movement from one kind of body to a disciplined body in that sense.

**Tracey Hutchings-Goetz:** Yeah, just quickly: the phrase "keep in touch" comes from precisely that military context, albeit I believe it's nineteenth century, not eighteenth century. But it was the expectation that in a regimented unit in a march you'd be touching the person next to you.

**Richard Nash:** My hook would be from the military manuals that I read in the period, a critical piece of that has to do especially with when you watch the movement for turning to the right you need to turn as a unit; so those at the far right have to step short while those that are left step long precisely because muskets are fucking worthless one-on-one, but if you send a body as a body and they all fire at once you then lay down what is a massive shot. Which means that the marching that they're doing is people's bodies being trained to be pieces of a machine that function as a military machine, rather than as individual bodies.

**Bret Rothstein:** This is less of a hook and more of a shepherd's crook. It goes back in a way through Oz's statement on how the data speak for themselves to Mary's question about what an art historian or historian of visual culture would have to say about the diagrams, and it's interesting that you read them in the manner of landscape. I read them in the manner of gestures, and in both cases found myself troubled. Because while there are for instance... In Michael [Gavin]'s images there are certain kinds of gestural qualities, and even in Nick [Paige's]'s images there are certain kinds of gestural qualities. There's a fundamental problem with reading these images as mimetic because the whole premise that we often bring to mimetic imagery is that it's somehow critical and deceptive at the same time. It goes back to ocularcentrism and this long tradition of being suspect of sight. And I would simply point people toward a couple of interesting pieces that would help as they work with their diagrams. First is one of James Elkin's many, many, many, many essays, but it's one that has the extra advantage—unfairly, in some respects—of being called “Images That Are Not Art.”<sup>1</sup> It's about scientific imagery, it's about medical imagery, and it's actually a really rich and interesting piece. And then the second thing I'd steer people towards is Michael Marrinan and John Bender's *The Culture of Diagram*....

**many voices:** Right, right, right...

**Rothstein:** I think there's a way of rethinking image that's probably in order here. Because the way that we tend to use these kinds of expression is still very much linked to a kind of pictorial/illustrative/mimetic tradition and something else—something more Benjaminian—may be in order.

**Rachel Seiler-Smith:** The idea that some eighteenth-century thought argued that data speaks for itself... I wonder if people protest too much! This might go back to our conversation about anecdote versus example but—and I welcome anybody who has info on this for my own private reasons—but from what I've observed, it seems like in eighteenth-century print (rather than diagram), in eighteenth-century books whenever they introduce data sets, there's always narrative surrounding it, explaining it. So if the data “speaks for itself,” why does it need this context? Even Newton; when he does his graphs and his charts has excessive narration. I looked at seventeenth-century arithmetic primers and I imagined that it might be... I looked for ones for very little children (which were very hard to find, I barely found any) and I thought it'd kind of be like *Sesame Street* where there wouldn't be narrative—there'd sort of be like little objects that represented numbers. But there weren't. It was *all* text, and how they tried to... so you had to learn to read before you could learn to enumerate (except on your hands). Right? But when it

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<sup>1</sup> [Editor's Note] James Elkins, “Art History and Images That Are Not Art,” *The Art Bulletin* 77:4 (1995).

came to generating data in that way, it seems like there had to be a way in which the text explained the data and explained the process of getting at the data. Of course, again, going back to Mary's idea of embodied numeration, that [also] seems to be absent from what I've seen. But does anybody even have examples of where they do just print accounts without any sort of narrative explanation? Because I really have struggled to find them, where data actually "speaks for itself," perhaps even with diagrams they tended to have... captions. It's a genuine question.

**Nush Powell:** Just really briefly here pointing out you're not able to find primers for small children, but like Eve Bannet's argument about that—it's not that children aren't children; children are children—but that the stock of like, what we might call, "children's literature," it didn't really exist because that stuff is written for adults who'd be teaching children.<sup>2</sup> Right? So it's not that the child is expected to learn to read before the child can count, but the primary target for that book (even if the marketing suggests it's for small children) is for the mother or the governess or the schoolteacher, the person who will be doing the instruction.

**Kenshur:** Just to clarify, when I said, "The data speaks for itself" I was sort of translating it into the language of this workshop. But the inductivist model is simply that there is an accumulation of observations, and the truth emerges from that accumulation rather than from anything anticipatory. So it doesn't mean you can't narrate or—I mean, obviously there's not—I wasn't talking about graphs or, you know, other ways of presenting data. The data can be presented in a narrative way; but the point is it's simply an accumulation of observations rather than a hypothesis that tries to make sense of the observations. The observations will ultimately lead to a conclusion.

**Seiler-Smith:** Well, so, when... For example, when Newton charts the movement of stars and explains, "This is thus how stars move," is that an accumulation of data speaking for itself, or is that an interpretive framework: "Thus, this is how stars move." I mean, so this is what I'm saying in terms of, you know, we have account books that say, "This is how many things we have right here, thus we need to do this, etc." Right? That sort of need to *make sense of* the data, aside from just sort of (again) gathering or accumulating it. I wonder if that's actually much more difficult. So, you know... is Voltaire actually making... is he sort of both critiquing but also saying given the availability of data—or of observation—we're going to have to try and thus make sense of it in some way (through rhetoric or...)

**Kenshur:** Well, the notion of pure inductivism has been pretty much rejected by all philosophers and historians of science as... And people don't believe that Newton, in fact, when he wrote "hypotheses non fingo," really was able to make a claim that he doesn't hypothesize. And so in other words, you know, what I'm saying is that there was a kind of a, there was this kind of repeated notion that you weren't supposed to conjecture, you weren't supposed to hypothesize, but in fact you're quite correct in pointing out that it's not really—it doesn't really happen that way in practice.

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<sup>2</sup> [Editor's Note] Eve Tavor Bannet, *Eighteenth-Century Manners of Reading: Print Culture and Public Instruction in the Anglophone Atlantic World* (Cambridge University Press, 2017). In his *Centuries of Childhood, A Social History* (1960), Philippe Ariès argued that the idea of "childhood" is a modern invention and that before the late eighteenth century, children were seen either as non-people or as tiny adults.

**Seiler-Smith:** Okay, so they were... It was hot air... [laughter]

**Kenshur:** Yeah, yeah they were mistaken about, they were mistakenly describing what they considered to be this kind of procedure (which in fact nobody does).

**Elmer:** Nick Valvo has been waiting patiently. Nick Paige, do you still have a hook?

**Nick Paige:** I can wait.

**Elmer:** You can wait? Okay, then Nick Valvo.

**Paige:** [*sotto voce*] off the hook. [laughter]

**Nick Valvo:** So I was really struck by Mary's sort of synthetic formulation that maybe what we have been talking about here is an inversion between what had been (I think) a midcentury understanding of the relationship between theory and empiricism in terms of how they fit into what I've been thinking of as kind of a history of inhumanity or history of humanity (which I guess amounts to the same thing in some sort of Hegelian way). So then in light of this question of embodiment and disassociation—which was another one of your [Mary Favret's] very beautiful remarks—I was wondering, “What is it exactly that we have to disassociate from? What is it that we have to denigrate within or without ourselves in order to produce the human, the affective, the humane?”—all of these things. It won't surprise you what I think about this, I want to know what you guys think about this.

**Elizabeth Bond:** I think there's something about the analogy of the mirror, right, which is very, very visible in these sources. I think the... I am starting to think about a different chapter, I think I'm starting to work on this summer, but there's also this idea that maybe you write a public letter so you can hold it out and look at what it tells you about yourself in a way that is different than writing to a family member. You know, there's something about the mirror that—

**Valvo:** Like in Hegel's aesthetics...

**Bond:** Yeah, and this may go back to performance...

**Valvo:** The boy throwing the rock into the pond to watch the ripples and experience himself.

**Favret:** But then in that instance there's also... I mean, a certain impersonality, right? because the impersonality of print, somehow you have to circuit it through this impersonal...

**Bond:** It becomes abstracted and then...

**Favret:** Right. Not simply abstracted, but impersonal.

**Valvo:** So do you have to experience the impersonality of yourself? Like, is that the point?

**Paige:** Well, there's this weird thing where we say, "As I say in my book." There I am in print, you know, this strange mirroring and doubling and splitting off.

**Brad Pasanek:** The Edward Young line is "contract intimacy with the stranger within."<sup>3</sup>

**John Han:** I was kind of surprised that no one really brought up Adam Smith, the invisible hand, the theory of moral sentiment—the notion that somebody is imagining, abstracting a slave being whipped, right? And that somehow, I think, speaks to the whole, that abstraction feeding back to the body. Right?

**Hutchings-Goetz:** Well, but, sympathy is like... Adam Smith and sympathy is one model for feeling amongst others in the eighteenth century, right? So just because that's the one that we've inherited, right... And it's in many ways a fundamentally cognitive model. Right? "How would I feel if I were that person?" right, as opposed to... and then it becomes felt in the body, right, the cognitive precedes that corporeal affect, right, in Smith (and to a certain extent in Hume).

**Han:** I think Hume is more cognitive. I think Adam Smith is more, it's theory of moral sentiment, there's the issue of morality implicit in Smith. I don't think it's, yeah, it's not corporality, it's—

**Powell:** You don't get that straight away from the body. I don't think that's—

**Hutchings-Goetz:** Okay, yeah, this is a debate for a different time; but I just want to point out that it's one model amongst many, right?

**Han:** Yeah, yeah. Right.

**Ryan Sheldon:** Yeah, so just to try to pull a couple of these things together. Thinking about the inductive model (and protesting too much), one of the things that's really important there is that the nature of the protest matters. Right? It matters rhetorically, and it matters affectively too. Right? And so that's one of the things that is really interesting to me about the idea of numbers as affectively charged objects—and one of the things that's really interesting about thinking about number in the eighteenth century (where they do kind of exist, where do you have this coming into existence of cultural artifacts in a way, like the novel) is that people can have different responses to them, right. So that's my pitch for Defoe, that's one of the things that's really interesting about the quotes on mortality, is that they're terrifying, and one of the things that's terrifying about them is that they do have this kind of mirroring effect—I think especially in that moment because it's a moment where now you understand yourself as a member of an innumerable body politic for the first time, and so you exist in that but you're totally abstracted within it. It's a way of sort seeing something that you belong to, knowing that it's a construct, but also knowing that in its artificiality it gives you a frame of reference for understanding something that is otherwise not physical, not perceivable—and so that's really the tension. And then the way people argue around that I think is a really, really sort of fruitful point for looking at

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<sup>3</sup> Edward Young, *Conjectures on Original Composition* cited in Brad Pasanek, *Metaphors of Mind* (Johns Hopkins University Press, 2015), 164.



the way that, you know, numbers and facts work in this period. But also, you know, the way that they're not factual and they're not numerical or even quantitative.

**Hall Bjørnstad:** I want to add one number to this discussion, which I feel captures Mary's point, that is a number that persists in the bigram coding that we have been discussing. So in French the most common "myriad" number is hundred times hundred, but, interestingly, if you say "hundred times" in French, *cent fois*, you're also saying "without faith" or "without trust" [*sans foi*]. And indeed in seventeenth-century text you will see this duality acted. So the one example I have is in a certain important place in Pascal he says, "hundred times I looked for a sign of a higher meaning in nature"—but he did it "a hundred times," so "without trust, without faith," and so the response is already in the question.

**Nash:** We're not just full of hot air... But throughout our conversation I find myself going back and thinking about two senses of number that once upon a time were very important and urgent to me in thinking about this period and keep coming up for me in this workshop which is "what is the power of the individual?"—whether it is the individual as an outlier or as a surprise, or as a particular concentration and distillation? What's the power of the many and the mass, and the degree to which there is (for me) two different experiences of approaching to truth: one being some sense of insight that seems precisely focused and one being some sense of approximation that takes on power by inclusion? And in the very particular question... If you go back and start reading the lectures of [Isaac] Barrow on time and space and motion; they're very verbal. They're very—a lot of words, a lot of philosophy, a lot of discussion. And if you work through that to Newton and his contemporaries, you're going to find that there's a lot of language, but it's not all hot air. And a huge amount of the rhetorical power of the *Principia* is that all that discussion can, in fact, be formulated in a very coy, very taut, simple articulation, which is a kind of mathematical statement that is really emerging as a novel instrument in this period. That is... my original interest in mathematics in this period, was precisely in thinking about the rhetoric of mathematics and the idea of thinking of equations as statements that are so much more powerful than the hot air of language is something that's very much up for grabs. And the use of notation is far from standard. So you have various locations—whether you're talking about journals, about philosophical transactions, or across Europe, when you're talking about publishers like Samuel Smith where you get these treatises being written but they're often not yet speaking a common language, precisely because there is no agreed upon notation and it's still being sorted out. But it does seem to me that a lot of the interest for this period in questions of quantity and quantification is, "How can we articulate succinctly?" and there's this notion that mathematical argument allows for that kind of concentration. So that seems to me not "hot air" but also a mode that is not terribly familiar to us; and yet it seems to me that I felt some of the same power in the presentations we're seeing about "How do we look at data and what does data tell us?" whether that is... Because the question is in a way, "How do we articulate what will generate a diagram that has a more approximate meaning?" So that there is a single distillation of a general group where the power of the approximation comes from the visual but the power of the precision comes from the ability to articulate it in a particular equation. That's the sentiment I have.

**Seiler-Smith:** Can I reply? Just to say, by "hot air" I meant their claim that data can speak without being qualified or even interpreted—this idea that data can be just observation and

therefore noninterpretive and non-qualitative, even in how we actually ask the questions and then develop the methods to gather that data. And then in how we actually represent that data, the signifiers of things, and that attempt at rhetorical signification that doesn't have a rhetoric (which it does). So that's why I think there's hot air, I'm suggesting that, but also you could just say I guess that they had to write a lot of hot air to get at that succinctly. So to me to just have that formulation and say, "Well, this speaks for itself,"—well, no, it didn't. It had a citation, a citationality. That notation has a longer history, right, of hot air that needed to be used in order to produce vast signification.

**Nash:** I'm happy to go back and forth on that.

**Elmer:** Take it outside. I want to take the moderator's prerogative and jump a little bit and return to the question of affect and affect of presentation. If there's one thing we've been having consistently across the two days, it's people tacking between explanation and data (of one kind or another—the data takes forms, but it's definitely)... this is incumbent upon anybody who presents on this particular topic: to figure out a way to stylistically navigate the images, the data, the results with work and with explanation and persuasion. And one of the things that really I have found very winning—and this goes I think a little bit to Mary's observation that this is a personality-full workshop—is how well, I think, and how stylishly, that has been done by our visitors because—and this then maybe gets to a deeper thing, I'm not quite sure. I was very struck by Brad's comment (I think this was an answer to my question?) about walking down a hall and seeing an older colleague...yeah, Tucker—and saying, you know, "Here's what I'm doing" and seeing this kind of horrified, stricken face and then thinking, "Ha! I'm doing the right thing!" [laughter] There's a kind of *joie de vivre* in that response, and I was just trying to think of, you know... Because I certainly also walked up and down the hall and talked to my older colleagues when I first started out and was also doing things that they were horrified by and stricken by, but I don't think I went away feeling, "Yes!" You know? I just went, "Oh, well, you know, I'm right, you're wrong, whatever." It was a... and there's a kind of wit, I mean—so this is also true in the way Brad, I think, presented his paper—and I'll just use him but there are other examples as well—where, you know, you have this picture of yourself as someone who's headed towards aesthetic nihilism, who wants to figure out a way beyond the blandishments of the word. And yet what you've given us, and you claim to have dashed it off (I assume you're probably right), what you've given us is an extremely wrought and very witty piece of work which tacks extremely well between the data you have. And there was a lot of *personalizing* of the work. I remember in the very first day when Michael was talking about why he's undertaken the project that he's undertaken and you said something like, "I'm not, I find all this unsurprising,"—but so you may find it unsurprising, but I'm constantly surprised by all this and I don't really know why I want to do this but I know I want to. There was sort of a real personal thing there, you know. Nick, I think, didn't didn't present himself as, you know, *sui generis*—though everybody else seems to think you are, you know, in terms of, "Can only Nick Paige do this?" [laughter] and so there's a kind of style. And this is also true of Simon (I think, maybe, you know, a lot with Simon) and there's this wonderful moment: "And then we got all this information and then there's this guy... Robespierre. I don't know! So I have to talk to my expert friend to tell me about Robespierre." And, you know, that's lovely and disingenuous, and so there's something about the way this work which asks the question—which Brad asks most forcefully but I think Nick does too—that asks us to take a step back from, you know, aesthetic categories, aesthetic

responses ... but that then pulls the aestheticism, if you like, into the performance of the scholarship itself.

**Favret:** It's compensatory.

**Elmer:** Compensatory? I don't know, maybe it's just rhetorically savvy, you know where—you know, if you're gonna get people interested in your graphs and word clouds, you need to figure out a way to bring back, you know, some of the old-fashioned pleasure of ... —I don't know, that's probably a very banal thing to say.

**Pasanek:** This is good. Thank you very much; that really helps me clarify something. I've been trying, thinking about this maybe under the sign of Malcolm Bull. So my *joie de vivre*, my excitement when Chip is like, "Oh my God, what are you doing?" It's not I've gotten it right; it's that I know I've gotten it "wrong." So—if this makes sense—so that's the "failing" thing, the reading like a loser. So I know that he's got it right, and when he's upset that means I've got it wrong. Hooray, right? Which brings in this question of, like... Malcolm Bull is an extremely stylish writer. He's not writing like a loser, but he's praising this idea of reading like a loser, which has me thinking, like, what he's doing—or maybe what I want to do—is maybe something like Wittgenstein's ladder, but upside down. So you put the ladder into the hole, you climb down it and then you're in some terrible space and then you ask the people to pull the ladder up! And that's what the aesthetic nihilistic endgame looks like, yeah.

**Elmer:** You're having a good time in the hole. [laughter]

**Rothstein:** I'm going to dip into the sixteenth century again and address the mention that Mary made of error, and in particular this idea of being alleviated of the burden of error. It's not your phrasing, but something along those lines, and I would just make a plea for actually embracing error.

**Favret:** Right, that's what I would—yup—

**Rothstein:** And one really—for the sixteenth century—one really nice touchstone for that is an article by our colleague Constance Furey called "Erring Together" which came out in *The Journal of Religious History* last fall (a year ago last fall) but it's an extraordinary study of Erasmus and More and the spiritual friendships, the intellectual friendships, the academic friendships that arise from error and correction, the back and forth that is such a vital component of *this* kind of meeting and of the numbers who have assembled here and the numbers they brought to bear on this meeting.

**Kenshur:** Just to add to that... I just wanted to say Kathryn Shultz, who now is one of the best *New Yorker* writers, she was added to their staff I think because she wrote this incredible book called *Being Wrong*, which is basically a whole volume in praise of being wrong, and it's really terrific.

**Elmer:** Nick.

**Paige:** What I have to say is... It's not very sharp. I mean to say that, I mean, my relation to... at a certain part of the project I was convinced I needed to learn R, because in R you can apparently do sexier graphs than in Excel. But I've learned to embrace kind of the clunkiness of my bar graphs and line graphs. Because, I mean, it's important that they not be aesthetic objects in any way. And perhaps my perplexity with, say, Melanie's network graph (we were talking about this last night) or Michael's word-cloud associations is that somehow they're kind of too beautiful, and I don't know how to actually unpack them. Whereas I think of mine as, "They're just tools"—one graph is just a tool to kind of then say, "Okay, wait, I've got to produce a new graph now to understand why that graph's composed as it is," and so they're just kind of rungs on a ladder, if you like. But I like that kind of, that kind of banal dimension to them. And of course it's never "data" speaking for itself.

**Elmer:** So you're speaking—you're speaking very eloquently for it!

**Paige:** And so then ultimately I come up with a theory and I didn't really expose it here—but so I have this idea that the way to understand the evolution of the novel passes through kind of a history of technology. But, you know, I think that that's a theory. I am going to posit it, for example; I am deliberately not saying that novels are *like* technological artifacts; I'm going to be saying that novels *are* technological artifacts. However... I'm perfectly happy with someone coming along later and saying, "Ah, I see why you say that they're behaving that way but in fact there's something else." Right? But I... that's fine. I'm not trying to have the last word, and my data's not speaking for itself.

**Gavin:** Well, I mean, whenever people are sort of, you know, repeating the same thing over and over again, that's when you realize that it's probably wrong. And so, like, this comes back to the question of introducing error. Like, oh my gosh, data fucking speaks to me all the time because it's always telling me I'm wrong. All. The. Time. And it's... like it won't shut the fuck up.

**Elmer:** That's "qualitative."

**Gavin:** So that's my experience of it! So when... and, you know, oh my gosh, the distances from one to the other are actually calculated correctly! Do you know how long that takes, to figure out how to hard code, how to grade circle distances from London? It's crazy.

**Paige:** But there are all sorts of neat surprises.

**Gavin:** Yeah, I ended up, it's cool... but it does not persuade.

**Bond:** I think there's something, isn't there, about coding and these digital approaches that's very much connected to theory? So I think you're both having the same process.

**Paige & Gavin:** Yes

**Melanie Conroy:** I think there's also a question, you know—especially since a lot of us think of ourselves as much as "cultural critics" as we do literary scholars or historians... You know, network diagrams (for example) are very difficult to understand, especially for people who are

trained in literary studies. But that's also the way that Netflix is deciding which movies to recommend to you, Amazon is deciding what kinds, you know, of books to recommend to you; so I think that, you know, nevertheless it's good to have at least a subset of kind of cultural critics familiar with the ways in which, for example, the art of the internet is changing. So I think there's a balance between using things like visualization to speak to people about questions that they're already invested in, versus kind of exploring new connections between, say, literature and the internet.

**Rothstein:** My hook again is a more shepherd's crook. I want to go back again to your statement about charts being banal—which I *applaud*. Because I think the idea that these images can have an oppositional quality to them is important, it gets at my earlier suggestion that we think in more Benjaminian terms about the active components of these kinds of images. But I hesitate, because it sounded as if you were suggesting that there was at least a degree of maybe neutrality or, if not, invisibility, and certainly not transparency to your images. But they are heavily, thoroughly entangled with a vocabulary of economics textbooks, accounting books; and so I think that they have their own expressive work they're performing in addition to the oppositional, that kind of resistance to the glossy .... They have an eloquence.

**Paige:** I mean, the eloquence of a tool.

**Elmer:** Sarah.

**Sarah Knott:** So I'm puzzling over the affective question of the figure of the literary critic in these papers. I'm just going to lay out the puzzle. I don't have a question. I have a very strong response to the affective pose, and I am simply going to report on it. So my report on it as a historian is twofold: one, how astonishing it has felt to hear terms that I as a cultural historian a decade ago would have associated with Gradgrindian bean-counting history and exactly the kind of historians we thought of as being outside the room when we created the Eighteenth-Century Center—and so to hear that bean-counting come from the voices of literary critics has been really dizzying and fascinating and disarming. So I'm disarmed about that. But I'm also... I'm not disarmed by the urge to cut down Wordsworth again or to re-scare-quote "good and bad poetry," because I thought we'd already done that. And so what I'm not disarmed by is: so many of the moves that are so charming in your paper (where you parodied the potential criticism of the reader as well as your own hesitations as a critic, if that makes sense). So for me there were ways in which I felt—as a cultural critic, not just as a historian—uninvited into certain kinds of digital humanities debates, because I wasn't interested in the beasts that were being slain. And to make that more concrete, what I—so, just to take you as an example, Brad, in an unfair way—one kind of move that those older Gradgrindian historians would have found, would have been to sort of talk about the *corps* that they were working with in a different sort of fashion, I think, and one way in which new cultural historians want to talk about the *corps* you're working with would have been to talk about exclusions and to say, "Yeah, we're never, ever going to posit women and laboring folks as after-effects. We didn't like that scholarship, and we're not going to do it again." And yet there's a way in which (for me at least) your approach to your archive amplifies, it has a way of amplifying those exclusions (which we've already dealt with). And so I just want to invite you to speak to—maybe it's a generation of scholarship or maybe it's just other scholarship, which still wants to problematize the digitized archives within which much of

this scholarship is working. And to say there are so many exclusions, there are so many other modes of analysis about the eighteenth century that we could put in play, and I want to say that I can make—I want to make a critical move that isn't already parodied in your own disarming self-critique. And so I felt... yeah, that's my reportage.

**Elmer:** Brad, do you want to respond?

**Pasanek:** I'm thinking; it's such a good question. I don't know, I'm not sure this is a response to it... so maybe everyone can respond? But I'll say one thing, maybe... I'm thinking, there we go, yeah, so it's not over, the culture wars—this is like T.S. Eliot—but it's not, I mean, it always goes underground and the war continues in strange ways. The problem with digital humanities is that our electronic archives, which are supposed to be flat, democratic spaces in which all points are equally represented—like Moretti's, who's always like, "Austen is just another point among other points." The problem is that they're all generated from pre-Culture-War bibliography that just reinscribe the 1960's notion of what a canon would be in the first place. And so I don't know if this lets you in or if this is... I don't know who's inside whose gates. Right? But part of the problem is: those are the only sets of texts I have to work with. This is like Michael's textual point: these are the digitized texts. And so I have, there's a way in which in running over that terrain we just reanimate the structure of... yeah. So these horrible dichotomies, binaries, hierarchies, right, and so I want a kind of flattening effect, but I'm not sure how to produce it because, yeah, the very terrain on which I would sort of mount that argument is unlevel, yeah.

**Knott:** Can I make one—?

**Pasanek:** Yeah, please.

**Knott:** So could we not think about implied readers in the texts that you're producing and have more than one implied reader? So not just the bloke down the corridor, but actually other kinds of implied readers that you can... because it seems to me that there are.... that that's such a legitimate answer to me. Why is that legitimate answer not on the page? Because it's, yeah, why not pluralize implied readers of your project, so that your project becomes more borrow-able and more arguable with.

**Elmer:** Rebecca. I think this is going to be the last word.

**Rebecca Spang:** "Relentlessly textual." This is a frustration that I have had with Simon DeDeo because he wants to say that we are analyzing the French Revolution, and I say that we are analyzing the major speeches from the French Revolution that Mavidal and Laurent put into the *Archives parlementaires* when they were editing in the 1860s-1890s. And he says, "Oh! Well that doesn't let us talk about how societies change" and I say, "No, it just tells us about these thirty-three volumes." And so in my capacity as a—not exactly a Gradgrind social historian, but as an archival social historian—I think there are limits to what we can do through analyzing the *Archives parlementaires* if we actually want to be talking about something other than the *Archives parlementaires*; which I, as a historian, kinda want to do. I mean, I'm fascinated by the *Archives parlementaires*, I've got now a side project on secretaries—for autobiographical

reasons, obviously—but, so I'm very interested in how that document got compiled, but that's not the end goal for me.