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Digital methods can help you...

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INTRODUCTION

Digital Methods Can Help You . . . If You're Careful, Critical, and Not Historiographically Naïve

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This special section on the digital history of psychology includes target articles by Ivan Flis and Nees Jan van Eck and Jeremy Trevelyan Burman, with comments by Melinda Baldwin, Ted Porter, and Chris Green. In his introduction to the section, Burman explains his original motivation in turning to tools borrowed from the digital humanities: helping graduate students to identify dissertation topics more easily, and thereby reduce completion times for the doctorate, while at the same time doing “good history.” Since then, a new field—digital history of psychology—has blossomed. John Burnham, especially, is recognized here as an important interlocutor.

Keywords: digital history, digital humanities, historiography, graduate students

Way back in 2011, I argued—in a talk at the American Psychological Association (APA) Convention in Washington, DC—that the digital humanities could help students to choose research topics worth pursuing. My goal was to reduce the number of years spent casting about for dissertation projects. This was in part because my position on the PsycINFO advisory board had come initially through the American Psychological Association of Graduate Students.¹ But it was also because that’s what my friends and I often seemed to be doing in our various doctoral programs: churning, not moving forward. (Now that I work in Europe, the overly long completion times in North America are quite shocking by contrast.) Crucially, though, I was not appealing to *The Digital* as an oracle: these tools do not represent a perfect and all-knowing source of trustworthy answers. Instead, I argued only that digital tools and techniques could provide access to interesting new questions.

At the time, my coauthor and I proposed that identifying “psychological factories” could inform new historical investigations (Burman & Ball, 2011; also Ball, 2012, pp. 76–77; Burman, 2012). This was then accepted without fanfare: Daniel Todes (1997, 2002) had described the source of Pavlov’s productivity in similar terms. The incremental contribution of our talk, and of my appeal to digital tools for historical purposes, was therefore simply to propose a means of detecting these factories. And the first step was

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¹ I served as liaison to APAGS from the APA’s Electronic Resources Advisory Board in 2007–2009, then as liaison to the Publications and Communications Board in 2009–2012.

pretty easy: do a search of PsycINFO for each year's most prolific authors, while constraining for language and omitting editorial materials.

The following year, at the joint meeting of Cheiron and the European Society for the History of the Human Sciences in Montreal, Québec, Canada, I made a similar presentation. Because the audience was more historiographically sophisticated, my goal was to dig more deeply into what it meant to identify factories, digitally, and how one might also use the associated metadata to identify clusters of factories that might in turn be investigable as "psychological industries" (Burman & Ball, 2012). To explain my intent, however, I leaned too heavily on a concept we had used unproblematically in the first talk, and which had itself been published in the interval: "genius without the great man" (Ball, 2012).

This did not go over well. My coauthor was unable to attend the meeting, and I bungled my explanation of her arguments. As a result, John Burnham (1929–2017) argued in response that what I was proposing in appealing to digital methods was "bad history." I didn't agree, of course, for reasons that I will explain. But his criticisms also led me to delay the publication of my arguments regarding the usefulness of PsycINFO for historical purposes (included here in updated form). Looking back, though, it's clear what happened. Indeed, it is to my great regret that I never had a chance to talk with John about the revisions that I made afterward.

This special section is the direct consequence of John's push for a more careful approach, and I would like to dedicate those *efforts* to his memory (even though he objected at the time to the *tools*). I would also now like to clarify what I meant, because I still think the tools can help to reduce completion times while at the same time helping dissertating historians to do "good history."

My view when John objected in 2012, and the view of my coauthor, was that "genius" is a *label* that gets applied by others. It is not a *trait* that attaches to individuals essentially. So my argument in those early conference talks was that tools like PsycINFO can quickly identify candidates for this labeling, according to their productivity (*ceteris paribus*), and therefore that doctoral students seeking dissertation topics can easily derive a portfolio of options from which to choose a smaller subset for further investment: *in my area of interest, these are the factories and industries that ought to be examined regardless of whether or not they have been remembered.*

The point of doing this, however, was not to make rankings of "great men." That's why I had leaned so heavily in my talk on the article about "genius without the great man" (Ball, 2012). The point was instead to examine the labels, and also to show that historians can use the application of labels to guide their contemporary research. (At the time, we called this "sign-posting"; Ball, 2012, p. 79; Burman, 2012, p. 284.) Easily found highly productive individuals or author-pairs could then be examined prosopographically: some received the label "genius," and others didn't. It's this difference in labeling that then affords new opportunities for investigation: *under what conditions were certain historical people so labeled, and others not?* (see also Ball, 2014; cf. Green, 2017; Green & Martin, 2017).²

This approach seemed like a good a way to shift the historiographical debate away from conflicts regarding the celebration of forgotten would-be worthies, including whether different historical contributions ought to "count" relative to others, and toward the investigation of different conditions reflecting different historical values. (The implied move, using PsycINFO, was from *conditions of possibility* to *conditions of prolificacy*.) Yet it was also intended primarily as a clear and simple example of a research program

² Full disclosure: I served as action editor on Green's 2017 article with Martin. He also supervised my doctoral dissertation, although this was on a more traditional topic (viz. Jean Piaget). Indeed, we have coauthored several articles together. Several are cited throughout the special section.

that digital methods could enable. Unfortunately, I got bogged down in the historiography while trying to explain it.

I just didn't have the vocabulary I needed to make myself clear: I was appealing not only to *nominalism* (the use of "genius" as a label), but also—unwittingly—to *conventionalism* too (the conditions under which it is appropriate to apply such a label). To make matters worse, I also got twisted around by my use of a third concept that was hot at the time: *mechanical objectivity* (Daston & Galison, 2007; for the history of psychology, see also Green, 2010).

The notion of mechanical objectivity lends itself obviously to digital history. There is an appeal not only to the neutrality of mechanism, but also to its ethics: "the insistent drive to repress the willful intervention of the artist–author, and to put in its stead a set of procedures that would, as it were, move nature to the page through a strict protocol, if not automatically" (Daston & Galison, 2007, p. 121). But it seems this is where John and I clashed: he thought I was arguing for an uncritical historiography, whereas my intent was rather to push for the easier recognition of *invisibles* to which critical faculties could afterward be applied (e.g., Burman, 2015, 2018, in press; Burman, Green, & Shanker, 2015; Burman, Guida, & Nicolas, 2015; Green, Feinerer, & Burman, 2015a, 2015b).

Thus, briefly, doctoral students' judgment can be *augmented* by the use of mechanically objective tools. Yet this is a quite different thing from what it seems John had understood of my argument at the time. I certainly never meant to suggest that trained judgment could be *replaced*. But this misunderstanding now seems very common. Indeed, it strikes at the very heart of what it is that "digital history" seems to mean to those who do not do it: unthinking, uncareful, unsophisticated, naïve, and so on. That's just plain wrong. No digital historian I know wants to argue that. And I think this special section makes this clear.

The essay by Ivan Flis and Nees Jan van Eck—"Framing Psychology as a Discipline"—adopts a variation of Moretti's (2013) "distant reading" to examine the changes in psychology's methodological metalanguage during the second half of the 20th century. They looked at the authors' speech as it was captured in titles and abstracts, in over a thousand psychological journals, and visualized the co-occurrence patterns they found. Indeed, their method can be summarized most simply by riffing on Hebb: *terms used together appear together*.

Their approach shares some affinity with Google's famous Ngram viewer, but with greater transparency: multiword phrases were captured, in addition to individual words, and all texts originate from within the PsycINFO database. Their research is therefore directly repeatable and replicable by anyone with access.³ Differences may arise from setting filter levels differently, but the result for their settings and sources is conclusive: on the basis of the similarities between the 3,000 most relevant noun phrases (drawn from nearly 700,000 articles), psychology in the second half of the 20th century is describable with just a few clusters of terms. At one level of analysis, these suggest the dominance of experiments, rats, depression, intervention programs, and students (shared across several different specialist journals). At another, they suggest the fundamental split of psychology into correlational and experimental science.

My own contribution to the section—"Through the Looking-Glass"—delivers on my original intent, from my talks in 2011 and 2012, but more directly and more critically: if we treat PsycINFO as an archive, as indeed Flis and van Eck have done, then how might *the labels used within it* be tracked? I took advantage of the APA's own system of labeling (the controlled vocabulary now integrated into PsycINFO), and asked a series of ques-

³ Access to the PsycINFO database is by subscription, via several providers, but APA also offers a request service for digital humanities researchers that can be accessed at <http://www.apa.org/pubs/psycinfoservices/index.aspx>. (Note that this updates the link provided elsewhere in this section for "PsycINFO Data Solutions.")

tions: *What is this thing, PsycINFO, that can be used to track trends in psychological publishing? How might we do that in a way that produces trustworthy results? Over what period? What else do we need to be aware of if that's the sort of project we want to undertake? And what happens when it's those "other things" that get examined?*

This was meant to bring digital methods into the kind of investigation that I think John would have found acceptable, if only as part of "the new eclecticism" (Burnham, 2016, p. 60). In the process of engaging with that interest critically, new insights then emerged that I could not have predicted at the outset (e.g., the relationship between the APA and the National Science Foundation in PsycINFO's early origin story, and their shared connection to the Central Intelligence Agency). Of course, this identification of new worthwhile topics was exactly my point back when John objected. But I couldn't make the point then, clearly, and feel that it is all so much simpler now that we've published a dozen or so articles on the topic. And there's also the coincidence that my analysis identified similar topical foci as did Flis and van Eck: in the second half of the 20th century, psychologists focused their scientific gaze especially on rats, depression, interventions

With the two target articles laying these foundations, three commentaries build on them to engage with larger connected issues. Melinda Baldwin entertains concerns and cautions, as well as new questions, from the perspective of the larger history of scientific publishing (see also Baldwin, 2015, 2018). Ted Porter expands his earlier examination of "trust in numbers" to raise the related issues of classification, categorization, and grouping. To wit: *what is it that we are counting?* (extending Porter, 1995; see also Porter, 2018). Chris Green, *l'éminence grise* and pioneer of the digital history of psychology, then reinforces the argument that these are useful tools which can complement traditional histories of science (see also Green, 2016). To conclude the section, Flis replies to some of the issues arising. Indeed, I am so happy with his comments—written just a few months before the defense of his doctoral dissertation (and thereby exemplifying exactly what I had hoped-for originally in advocating for the use of these techniques by graduate students)—that I have elected to give him the last word.

In short, the point of this special section is this: *How can these tools help you to see what you are interested in such that you can then make better judgments about what to select for further research?* That's it, although getting there is a bit complicated. Still, we show here that the tools and techniques of digital history can help you if you are careful, critical, and not historiographically naïve; as, I suspect, John would have wanted.

References

- Baldwin, M. C. (2015). *Making nature: The history of a scientific journal*. Illinois: University of Chicago Press. <http://dx.doi.org/10.7208/chicago/9780226261591.001.0001>
- Baldwin, M. C. (2018). Scientific autonomy, public accountability, and the rise of "peer review" in the Cold War United States. *Isis*, 109, 538–558. <http://dx.doi.org/10.1086/700070>
- Ball, L. C. (2012). Genius without the "Great Man": New possibilities for the historian of psychology. *History of Psychology*, 15, 72–83. <http://dx.doi.org/10.1037/a0023247>
- Ball, L. C. (2014). The genius in history: Historiographic explorations. In D. K. Simonton (Ed.), *The Wiley handbook of genius* (pp. 3–19). Chichester, United Kingdom: Wiley-Blackwell.
- Burman, J. T. (2012). Jean Piaget: Images of a life and his factory. *History of Psychology*, 15, 283–288. <http://dx.doi.org/10.1037/a0025930>
- Burman, J. T. (2015). Neglect of the foreign invisible: Historiography and the navigation of conflicting sensibilities. *History of Psychology*, 18, 146–169. <http://dx.doi.org/10.1037/a0039194>
- Burman, J. T. (2018). What is history of psychology? Network analysis of *Journal Citation Reports*, 2009–2015. *SAGE Open*, 8, 1–17. <http://dx.doi.org/10.1177/2158244018763005>
- Burman, J. T. (in press). Development under evolution: Examining neglected invisibles, like Piaget's, is the task of intellectual history. In R. J. Sternberg & W. Pickren (Eds.), *Handbook of the intellectual history of psychology: How psychological ideas have evolved from past to present*. United Kingdom: Cambridge University Press.

- Burman, J. T., & Ball, L. C. (2011). *Mechanically objective history: Mining PsycINFO, excavating the discipline's "psychological factories."* Paper presented at the annual meeting of the Society for the History of Psychology (APA Division 26), Washington, DC.
- Burman, J. T., & Ball, L. C. (2012). *Beyond the great man: Psychological factories as a method of inquiry.* Paper presented at the annual meeting of Cheiron: The International Society for the History of Behavioral and Social Sciences, Montreal, Canada.
- Burman, J. T., Green, C. D., & Shanker, S. (2015). On the meanings of self-regulation: Digital humanities in service of conceptual clarity. *Child Development*, 86, 1507–1521. <http://dx.doi.org/10.1111/cdev.12395>
- Burman, J. T., Guida, A., & Nicolas, S. (2015). Hearing the inaudible experimental subject: Echoes of Inaudi, Binet's calculating prodigy. *History of Psychology*, 18, 47–68. <http://dx.doi.org/10.1037/a0038448>
- Burnham, J. C. (2016). Franz Samelson as the gentle agent sent to punish the sin of pride. *Journal of the History of the Behavioral Sciences*, 52, 60–62. <http://dx.doi.org/10.1002/jhbs.21768>
- Daston, L., & Galison, P. (2007). *Objectivity*. New York, NY: Zone.
- Green, C. D. (2010). Scientific objectivity and E. B. Titchener's experimental psychology. *Isis*, 101, 697–721. <http://dx.doi.org/10.1086/657473>
- Green, C. D. (2016). A digital future for the history of psychology? *History of Psychology*, 19, 209–219. <http://dx.doi.org/10.1037/hop0000012>
- Green, C. D., Feinerer, I., & Burman, J. T. (2015a). Searching for the structure of early American psychology: Networking *Psychological Review*, 1894–1908. *History of Psychology*, 18, 15–31. <http://dx.doi.org/10.1037/a0038406>
- Green, C. D., Feinerer, I., & Burman, J. T. (2015b). Searching for the structure of early American psychology: Networking *Psychological Review*, 1909–1923. *History of Psychology*, 18, 196–204. <http://dx.doi.org/10.1037/a0039013>
- Green, C. D., & Martin, S. M. (2017). Historical impact in psychology differs between demographic groups. *New Ideas in Psychology*, 47, 24–32. <http://dx.doi.org/10.1016/j.newidea-psych.2017.04.001>
- Green, C. D. (2017). Publish and perish: Psychology's most prolific authors are not always the ones we remember. *The American Journal of Psychology*, 130, 105–119. <http://dx.doi.org/10.5406/amerjpsyc.130.1.0105>
- Moretti, F. (2013). *Distant reading*. Brooklyn, NY: Verso/New Left.
- Porter, T. M. (1995). *Trust in numbers: The pursuit of objectivity in science and public life*. New Jersey: Princeton University Press.
- Porter, T. M. (2018). *Genetics in the madhouse: The unknown history of human heredity*. New Jersey: Princeton University Press. <http://dx.doi.org/10.23943/9781400890507>
- Todes, D. P. (1997). Pavlov's physiology factory. *Isis*, 88, 204–246. <http://dx.doi.org/10.1086/383690>
- Todes, D. P. (2002). *Pavlov's physiology factory*. Baltimore, MD: Johns Hopkins University Press.

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