**Hauntology**

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**Introduction**

What does it mean to engage with displaced and submerged narratives, actors, agents and entities within the context of data and digital archives? This is the challenge that this chapter raises for analyses that seek to go beyond big data analytics and address the social and cultural lives and *after*-lives of data. The chapter will focus on the affordances and potential of post-publication-peer-review and why the data made possible by the digital disruption of the publishing industry is important for ghost-hunting and archival practices[[1]](#endnote-1). The following example raises questions about archiving practices and what is rendered visible and invisible, material and immaterial, true or false within particular regimes of visibility and truth telling. It introduces the concept of *historiality* borrowed from the science studies scholar and philosopher Hans-Jorg Rheinberger. Historiality as a concept is developed within the context of data and the digital archive, returning software media transactions and data analytics to their ghostly dimensions.

**Historiality**

Historiality, as developed within my forthcoming book, *Haunted Data: Transmedia, Affect, Weird Science and Archives of the Future,* argues that both science and computational culture are haunted by both the histories and excesses of their own storytelling and that these excesses surface in “queer aggregations” or *haunted data* to be mined, poached and put to work in newly emergent contexts and settings[[2]](#endnote-2). The book points to the propensity of *straight* or legitimate science to sanitize, excise or even exorcise narratives, actors, agents and entities, which “contaminate” it with queerness.

Let me give an example, which draws out some of the issues that are remediated within digital archives, and within specific data analytics that require more attention. In this case I will focus on an erased or exorcised feminist scientist who haunts contemporary science in the area of biology and gender studies. In February 2015, *Nature*, the “international weekly journal of science”, ran an article entitled Sex Redefined in which Claire Ainsworth (2015), a “freelance writer based in New Hampshire, UK”, reported that “the idea of two sexes is simplistic”, and that “biologists now think there is a wider spectrum than that”. Recent scientific discoveries, it is argued, “do not sit well in a world in which sex is still defined in binary terms” (ibid)   
[http://www.nature.com/news/sex-redefined-1.16943](http://www.nature.com/news/sex-redefined-1.16943" \t "_blank). While these discoveries were welcomed by LGBTQI activists and academics exception was taken to their alleged newness. In the subsequent issue in March 2015, *Nature* published a response by Anne Fausto-Sterling, a professor of Biology and Gender Studies at Brown University, who has written extensively on the biology of sex and gender, most famously in the controversial essay ‘The Five Sexes’ (1993). Fausto-Sterling, whose work goes unmentioned in the original article, argues that the “concept of multiple sexes is not new”, but rather that it emerged in the early 1990s when feminist critics of science joined forces with intersex activist movements.

Mainstream biology is finally responding to longstanding calls for a pluralfication of genders and sexes from within intersex activism, feminism and feminist science and technology studies, Fausto-Sterling argues. Science is not isolated from society, she points out, suggesting that scientific discoveries do not occur in a vat. Rather, “ideas travel into the lab from street activists, literature and varied scholarship, and move back out again. As a result of their efforts, research scientists were pushed into visualizing the previously invisible.” (Fausto-Sterling, 2015) [http://www.nature.com/nature/journal/v519/n7543/full/519291e.html](http://www.nature.com/nature/journal/v519/n7543/full/519291e.html" \t "_blank)

As we can see from Fausto-Sterling’s response to what passes as scientific knowledge, there are more stories to tell that haunt this narrative. Her own contributions to the accumulation of scientific knowledge in this instance are excised, submerged and displaced within specific practices of archival conservation. Fausto-Sterling haunts this comfortable narrative of scientific progress showing how knowledge practices and their histories or *historialities* are always more messy, opening to multiple leads, backtracks, dead-ends, to outliers, anomalies and what remains as an absent-presence. What are the implications of this hauntological story and its’ excising of feminist knowledge for archiving practices, and the tracing and staging of more speculative archives? I use the term speculative archives to refer to disaggregated archives which unsettle big data analytics with their drive for prediction, control and attempts to anticipate the future underpinned by normalizing practices of rewriting, redaction and re-coding.

**Ghost hunting and the Chimaera**

I argue that the concept of big data guides new digital methods and practices, including data visualizations often based on predictive analytics, hyperlinks, or the frequency or variation of semantic content, such as co-word variation. One of the problems with these methods is that they remediate limited forms of semantic and network analysis and are often designed to produce aggregate correlation. They iron out dynamism, movement and historical connections that are often significant aspects of data’s social life (Beer, 2013). When big data become the primary object, these aspects are often overlooked and remediate the asymmetries of power and knowledge that contribute to and perpetuate marginalizations, disparities and discriminations[[3]](#endnote-3). In this respect I argue that data analytics require the development of practices of ghost hunting as a way of redressing these problems.

I write this entry on hauntology as a ghost-hunter with a strange predilection for finding the sense in the aberrant, freakish, odd, bizarre, weird, strange, anomalous, peculiar and the alien[[4]](#endnote-4) I have a biological affinity to the person who opens the February 2015 article above, a patient who confounded her Doctor’s preconceptions as she was what is called a chimaera: “a person who develops from a mixture of two fertilized eggs, usually owing to a merger between embryonic twins in the womb” <http://www.nature.com/news/sex-redefined-1.16943> Chimaera is perhaps a good starting place to begin to think about the ghostly as a generative term which opens to data in its most hauntological mode: to what becomes submerged, displaced, foreclosed and rendered invisible, specifically according to certain practices of archival memory and the visualizations, representations and interventions that perpetuate such practices. The term chimaera often conjures connections to the mythological, the grotesque, the unreal, to dreams, fantasies and delusions, including examples in Greek mythology of border-crossing and trans-species entanglement: “a fire-breathing female monster with a lion's head, a goat's body, and a serpent's tail” <http://www.dictionary.com/browse/chimaera>

**Morphological Imagination**

In the article the term chimaera is used to refer to genetic anomalies or mutations where the anticipated singularly distinct bodily integrity of one person, is confounded by the unanticipated identification of chromosomal cellular abnormalities of another or others. The revelation of “mixedness” rather than biological sameness challenges the idea of the fortress defended self that has been normalized and naturalized within rationalities based on “biopolitical individualization” or self-containment (Cohen, 2009). The reorientation of thinking, practice and biological imaginaries towards shared ecologies, unusual cell transfer, and entanglement of self and other, human and non-human, material and immaterial reveal how we are always-more-than-one. Chimaera invite the invention of what Vivian Sobchack (2010) has termed new forms of morphological imagination to help us to grasp these realities [[5]](#endnote-5). As I will go on to argue morphological imaginaries are at work within data archiving practices often tending towards conservative psychosocial understandings of selfhood and identity. I am interested in uncovering what exceeds data practices, which close down on uncertainty, outliers, anomalies and traces of displaced and submerged actors, entities and agents, tending rather towards regimes of anticipation based on existing normalized understandings, knowledges and historical truths.

**Haunted Data**

If the assumption of cellular confinement looks dated and anachronistic within the context of the new biologies (epigenetics, the microbiome) then what of software-media driven transactions which leave behind *traces* as data move on from their original event and accrue agencies? If we are rethinking our conceptions of selfhood, biological and bodily integrity, then what of data, archives and the practices of visualisation based on particular normalizing tendencies? The concept of “haunted data” developed in my forthcoming book is inspired by the work of Matt Fuller (2009) in software studies. He has used the concept of the “afterlives” of data, to explore the agency and autonomy of data as it moves on from the particular event that originated it and becomes active. The agency or what I call *aliveness* of data allows for a consideration of the social and cultural life of data, which exists beyond more instrumentalist notions of data. The concept of ‘haunted data’ is designed to disrupt the distinction between big and small data and to explore what leaves the frame if we focus solely on metrics, quantification and digital methods based on counting, measuring, aggregating and visualizing numbers.

**Queer Aggregations**

We are familiar perhaps with the concept of aggregation to describe big data where the concept of data derives from mathematical and computational approaches to information, which assumes that information can be given some kind of numerical value. This is taken to enable aggregation, comparison, cross-referencing and searching according to common factors and indices. However, this raises the question of what is and is not available to be quantified and what exceeds the instrumentalisation of data as metrics.

The concept of aggregation is central to statistics and the kinds of probabilistic thinking, which underpin future-oriented data analytics. Aggregation is a strategy of taking data from different (often numerous sources) and measures, which are replaced with what are called 'summary statistics'. Summary statistics are then used to model probable or possible explanations to shape possible futures. It is an automated competence within the context of big data analytics and remediates a strategy, which is central to probabilistic statistics. Debates and discussions about the problems with aggregation are numerous in the literature, and relate to issues of 'ecological validity' and what gets obscured and lost when data are taken and combined and put to work in relation to other variables (see Clark and Avery, 1976, for example).

The concept of aggregation and its limitations and problems raise critical questions about software media-driven transactions and their traces, whichmight exceed attempts to search and aggregate data. These data anomalies or data-ghosts are particularly intensified given the restrictions on what is searchable using proprietary software shaped by API's owned by conglomerates such as Google, Facebook and Twitter, for example. In that sense, critical methodological issues are raised regarding what it means to engage in 'data ethnographies', which take software media as an object of analysis (see Hochman and Manovich, 2013, for example; Langlois, 2015). These questions are recognized as important aspects of a cultural politics and analysis of the social life of data. This issue has been raised as an important aspect of contemporary sociological inquiry, for example (see Beer and Burrows, 2013).

Data ghosts or haunted data therefore have chimeric properties: they accrue agencies that result in criss-crossings, backtrackings, in dead-ends, loopings and in re-moving what becomes submerged or displaced within particular big-data analytics. The patterns or traces that might render ghost-data visible require particular forms of labour – human, technical, material and immaterial -, in order for them to be re-moved; that is put back into circulation.

**Re-moval**

The concept of re-moval or re-moving is taken from the science studies scholar Hans-Jörg Rheinberger’s work. I argue in *Haunted Data* that although Rheinberger’s focus is science and specifically scientific controversies, his insights have much to add to social media analysis and the digital humanities. Rheinberger is a significant German science studies scholar, who until his retirement was based at the Max Planck Institute in Berlin. His work, like many feminist science studies scholars (Haraway, Barad, Franklin, for example) has produced new objects, entities, methods and ways of thinking at the intersection of science and philosophy. His work was very influenced by Derrida, Haraway, Bachelard, Foucault and Canguilhelm, for example. He has been described as a leading historian and philosopher of the biological and life sciences (Lenoir, 2010). His philosophy of experimental practice is one that has many shared ontologies with those taken up within anthropology, sociology and literary studies (those which foreground process, enaction and relationality, for example). It is what Lenoir (ibid: xii) refers to as an 'exercise in historical epistemology'. His work and historical method present a critique of scientific positivism and explore the entanglement of science, the technical and cultural in the production of scientific objects and entities; or what we might term, following Karen Barad (2007), phenomena. The term that Rheinberger uses is 'epistemic things'.

Rheinberger's approach foregrounds recursion, or patterns of repetition and difference, which underpin the invention of new scientific objects. They also contribute to the epistemological foreclosure of specific materialized interpretations. Scientific objects are always mediated and become an agent in 'the process of making knowledge' (Lenoir, ibid: xiii) and are part of 'experimental systems' or apparatuses, which are performative. That is, they *invent* rather than discover. However, the processes of what becomes stabilized are always haunted for Rheinberger in terms of displaced and suppressed narratives, which always threaten to surface and come back; they exist as traces or deferrals in the Derridean sense. The concept of 'epistemic things' captures the patterns of difference and repetition that are characteristic of scientific objects and entities. Although science controversies might be considered settled at particular times, Rheinberger (1994) shows how they have the tendency to resurface in new ways and forms.

In *Haunted Data*, I argue that in the context of science this haunting and the ghost-data it re-moves increasingly materializes in new forms of animation and automation, off-line and most visibly in on-line science discussion and its often volatile displays of affect, emotion and feeling. I argue that the time lags, time shifts and multiple media times and temporalities re-moved within scientific controversies, allow one to orient attention to the uncertainty and indeterminacy that characterizes experimental systems. The book focuses on the distributed data related to the post-publication-peer-review associated with two contemporary science controversies in the area of weird science: the John Bargh priming controversy and Daryl Bem’s Feeling the Future. Following Rheinberger I develop the concept of *historiality* to draw attention to the multiplicity of times that intrude within experimental systems. The concept also draws attention to science as a story-telling machine, where as he argues; 'an experimental system has *more stories* to tell than the experimenter at any given moment is trying to tell with it' (Rheinberger, 1994: 77). He equates this dynamic potential to older narratives that persist in the future, as well as 'fragments of narratives that have not yet been told' (ibid: 77). I argue that scientific controversies as they are shaped in distributed data associated with post-publication-peer-review across a variety of digital platforms shape “scenes of entanglement”, where the past and possible futures crisscross, intervene, intrude and open up the potential for something new to emerge. Rheinberger also characterizes this potential dynamism as an excess that escapes definition. It has different momentums, and allows for a potential tinkering, or what he also characterizes as a form of 're-moving' (ibid: 78).

**Queer Aggregations**

The concept of *re-moving* expresses what I take to be the hauntological vision of this thesis; the re-moving or animation of frozen time, or temporalities which haunt what has come to pass (as scientific truth or certainty for example). Controversies are potential “scenes of entanglement” which re-move, or have the potential to set traces in motion; traces which perhaps are not visible or knowable in relation to the intelligibility of particular experimental systems. Re-moving’s have the potential to perform retroactive re-shapings, but importantly such dynamism is not reducible to scientific research and practice itself. Re-movings are not internal to science or to the internal times and practices of formal scientific laboratories. I argue that the concept of re-moval allows a researcher to move beyond the immediate display of sentiment and emotion within on-line discussions, and to also explore what traces or deferrals are also potentially being set in motion or kept *alive* by such practices of self-performance and self-curation of data. I term these “queer aggregations”.

**Transmedial storytelling**

Computational culture is teeming with ghost-data, which open data archives to their potential contamination with queerness. Developing the concept of transmedial storytelling through the writings of the postcolonial theorist Rey Chow (2011), I return the concept of storytelling to data and intervene and represent specific “scenes of entanglement” based on displaced and submerged leads and openings. These entangle past and present, material and immaterial, truth and falsehood and fact and fiction. These scenes which re-move ghost data, illustrate with some ingenuity, wit, tenacity, imagination and forensic attunement to the multiplicity of historical times and temporalities, what exists in displaced and submerged form within more speculative and uncertain data archives. These usually and often exceed specific normalizing practices of aggregation and data analytics. They call for new forms of interpretation that visualize what are often rendered invisible within particular regimes of visualization.

**Post-publication-peer-review**

The call for new forms of post-publication-peer-review, which work with ghost-data to counter such normalizing tendencies have been endorsed by researchers attuned to the practices of marginalization and potential discrimination that have governed academic publishing. In an interesting article by Jane Hunter (2012) published in *Frontiers in Computational Neuroscience*, the evolutionary scientist Lynn Margulis is presented as one scientist who did not benefit from conventional practices of peer review. As the article recounts, despite going on to invent the ground breaking endosymbiotic theory, one of the most important articles outlining this theory was rejected from over 15 journals before it was eventually published. Margulis was considered by many scientists to be a rebel and a maverick and was continually embroiled in controversy <https://en.wikipedia.org/wiki/Lynn_Margulis> This example of scientific gatekeeping and exclusion is used by Hunter to argue for the importance of developing new forms of post-publication-peer-review, including what is known as the *F1000* publishing platform, which in Hunter’s words “take openness to the next level”. In this context there is an assumption that new forms of publishing associated with digital platforms, and their affordances in terms of the review and evaluation of scientific theories, might have prevented or challenged the history of exclusions outlined above. The question is whether new forms of post-publication-peer-review might attend to asymmetries of power and their racialized, gendered, classed and sexed operations that we see haunt Margulis’s history as a scientist.

**Conclusion**

Our understandings of data analytics and digital archives are often understood through the remediation of earlier forms of data analytics, which tend towards the eradication of uncertainty and what exceeds certain normalizing tendencies. As [Gitelman and Jackson (2013: 8)](http://journals.sagepub.com/doi/full/10.1177/0263276415590002) argue, these aggregated patterns and their algorithmic supports often obscure ‘ambiguity, conflict and contradiction’, engaging in acts of erasure in order to associate, connect and produce what we might identify as ‘collective phenomena’ (see Blackman, 2016). The concept of haunted data provides a heuristic and set of strategies for bringing the storytelling back to data analytics and attempts to circumvent and unsettle their normalizing tendencies. I argue that the concept of data having chimeric tendencies is a useful form of morphological imagination for approaching data and digital archives as composite entities. These composite entities always have more stories to tell at any one moment. These stories exist in submerged and displaced forms and require new forms of intervention and interpretation in order to return software media to their hauntological dimensions.

1. Post-publication-peer-review refers to a particular context of data production and circulation that has the potential to transform academic practices of writing, publishing, debate and impact. It focuses on the after-lives that academic articles and books might accrue after publication, and the ways in which the post-publication-peer-review found on blogs, Internet forums, social networks and other social media might enter into, intervene within and change the settings and parameters of what counts as legitimate and illegitimate debate. [↑](#endnote-ref-1)
2. Clough et al (2015) frame big data as the “performative celebration of capital’s queer captures and modulations”. The queerness of such queer capture and modulation is aligned in the reach of big data beyond number to the incalculable. *Haunted Data* engages in a different form of “queer capture” and modulation, which attends to those “queer aggregations” which are present in a corpus of data associated with post-publication-peer-review, but which are discarded from attempts to “storify” or modulate the data within specific algorithmic and computational practices, including the Google PageRank algorithm, for example. [↑](#endnote-ref-2)
3. See Blackman, L (2015) *The Haunted Life of Data* in Langlois, G., Redden, J., and Elmer, G (eds) Compromised Data: From Social Media to Big Data. London and New York: Bloomsbury press; Blackman, L (2016) “Social Media and the Politics of Small Data: Post Publication Peer Review and Academic Value”. *Theory, Culture & Society,* Volume 33(4): 3-26. [↑](#endnote-ref-3)
4. <https://static1.squarespace.com/static/56ec53dc9f7266dd86057f72/t/5882449486e6c040440cac4f/1484932247027/BLACKMAN-Booklet.pdf>

   <https://link.springer.com/content/pdf/bfm%3A978-1-4612-2284-2%2F1.p> [↑](#endnote-ref-4)
5. See Blackman, L (2010) Bodily Integrity, special issue, *Body & Society,* Volume 16(3): 1-9.

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