Scientific Polyphony: How Scientific Narratives Configure Many 'Voices'

Workshop held 3 June, 2019
Organised by Dr Kim M. Hajek and Prof. Mary S. Morgan

In this one-day workshop, organised as part of the Narrative Science Project at the LSE, we examined how 'voice' and narrative have interacted in the activities of a range of sciences. In the human and observational sciences, in particular, it has often been the case that knowledge-making activities drew upon many 'voices', or in other words, that doing science involved 'polyphony'—accounts of a storm given by different observers; patient voices incorporated into a psychological case history; myths transcribed by an anthropologist. What many of these examples share is that the information provided by each different voice forms its own little narrative. Yet scientists have also organised them into related groupings or broader narratives, as a way to elucidate particular research problems.

Speakers interrogated ways that narrative has helped scientists to configure multiple narrative chunks, to manage a multiplicity of voices in their enquiry, or to elicit a response from voices that might otherwise be silent or silenced. Each speaker presented a focused case-study of one concrete example, with extensive discussion allowing participants to explore questions including:

- How do scientists use narrative to synthesise multiple voices or multiple sources?
- When is competition between different voices epistemically productive, and how does such competition unfold?
- How are individual voices elicited and transcribed by particular sciences?
- When are voices overwritten by a dominant narrative? Or are there voices which resist overarching scientific narratives, to speak against a scientist's primary message?

The day ended with a stimulating plenary discussion, in which participants and speakers reflected on the way that much of the polyphony in our case-studies tended to result in a 'bringing together' of different voices, or the dominance of one narrative or voice (often the expert's). That is, the polyphony was 'harmonic', rather than 'dissonant'; few cases involved a multiplicity of different voices interacting in counterpoint. This situation can have political implications, but is also sometimes the result of an active effort to negotiate between voices and arrive at a compromise (such as in the policy space or the courtroom). Where scientists did work to draw out one or many voices in their particularity, such as in anthropology, botany, or in historical witness seminars, that process involved careful preparations, protocols, or means of 'amplification'.

Careful preparation by our speakers and the productive polyphony of enthusiastic participants combined to make a thought-provoking contribution to the narrative science project. Summaries of the individual papers, by their presenters, appear below.

Kim Hajek

Unheard Words. Franz Boas and the Anthropology of Voices.

Isabelle Kalinowski, ENS, and Camille Joseph, Université Paris 8

In his work on the Native American peoples living on the northwest coast of America, German-born American anthropologist Franz Boas (1858–1942) insisted on the importance of listening to native voices. In the field, it implied learning local languages, recording and transcribing texts in the original language, asking Indians to verify the ethnologist's interpretations… But Boas also identified a limit to such focus on voices, one that is particularly difficult to overcome: the phenomenon of 'sound blindness', or the inability for uneducated ears to perceive some pronunciations.

Darwin, Entrainment, and the Ecology of Form.

Devin Griffiths, University of Southern California

Starting with his work on orchids in the 1850s, Darwin was fascinated by plants that suggest a deep continuity between animal and plant life, and he developed a sophisticated array of techniques that allowed him to establish dialogues with their behaviour. Notably, in Darwin's late work, *The Power of Movement in Plants* (1880), he developed tools of synchronization, or 'entrainment', that allowed plants to write themselves into his work. This involved 'training' plants to 'draw' the movement of their roots, for instance, as they wiggled across a smoked glass plate. But when such techniques had to be calibrated, Darwin's solution was an interactive one: plant movement combined with human intervention to line up a tiny glass filament with dots on a standard plate. In other words, human practices and voices—in Darwin's texts—amplified the plant 'voice', in a form of collective authorship. Not only was human involvement necessary, but it operated on particular temporal rhythms, which had to come into synchronisation with plant rhythms; the resulting 'entrainment' resembles the kind of interaction that also operates in what I have called 'harmonic analogies', where understanding flows both ways between terms in an analogical pair.

Silencing Suggestion? Narratives of Suggestive Psychotherapy in Hippolyte Bernheim's Psychological Cases.

Kim M. Hajek, LSE

This case-study interrogates the place of the suggesting voice in a nineteenth-century collection of clinical observations of psychotherapy, in order to consider the way narrative helps to organise collections of particular units. The particulars in question are themselves small narratives, the cases of patients treated by suggestive psychotherapy by Hippolyte Bernheim in his hospital and private practice; 103 such cases make up the second part of Bernheim's 1891 book *Hypnotisme, Suggestion, Psychothérapie*. They follow a set of clinical lessons in which Bernheim expounds his 'Nancy School' conception of the crucial role of suggestion in hypnotism, hysteria, and beyond—views which he propounded in opposition to Jean-Martin Charcot's 'Salpêtrière School'. The clinical observations were to demonstrate, 'better than simple assertions' (234–35), the 'considerable role' of suggestion in 'aetiological, diagnostic, and therapeutic' aspects of medicine (202). It is rather surprising, then, that

the specific words of these suggestions are very often elided in the case narratives, particularly when it comes to therapeutic suggestions. That is, suggested words tend not to be narrated as direct or indirect speech, but are instead evoked through their effects, or merely noted as having occurred. Where particular suggestions do have a textual presence is in 'experimental' or more unusual therapeutic situations: when the physician's words to his students serve to create artificial painful points in a patient (and thus to demonstrate the way a physician's 'unconscious' suggestions can confuse diagnosis), or when 'indirect' suggestions are used to overcome a hysterical patient's tendency to act counter to any direct suggestion. If the suggesting voice is frequently silent (or silenced) on the level of individual observations, the accumulation of the same clinical plot across the collection—cures by suggestion (or partial cures)—nonetheless serves to demonstrate the therapeutic benefit of this method. This is an example, I propose, of a scientific argument being made from particular observations, but through a generalised narrative form, rather than by drawing on the particular voice of suggestion in each observation.

The Case of the Sexological Patient: From Narrative Polyphony to Visual Affect and Fragmentation.

Birgit Lang, University of Melbourne

In the nineteenth century, Central Europe became the hub of studies of human sexual behaviour. The psychiatric framework of this new field of knowledge and its empirical concerns led to the prominence of a new case study modality—the sexological case study compilation. With its dichotomic structure including scientific discourse and patient-centred casuistry, this genre represented a polyphonic yet hierarchical means for doctors and patients to negotiate their encounters.

The close reading of case 112 of the seventh edition of Richard von Krafft-Ebing's *Psychopathia Sexualis* from 1892 provided me with an opportunity to investigate why Krafft-Ebing insisted on starting his discussion of homosexuality with the ambivalent case of a gay man who was also a convicted paedophile. The narrative effort needed to justify this choice—Krafft-Ebing did not believe homosexuality and paedophilia to be related—was driven by a thirst for empiricism. The fact that the individual in the case was a physician and claimed to have had over 600 sexual partners, made him a reliable witness to one of Krafft-Ebing's key scholarly insights, namely that there was only a very tangential connection between biological sex and sexual orientation.

In a second step, I hypothesized why the visual turn that engulfed the case study compilation in the 1910s in all likelihood would not have led to the inclusion of photographs related to case 112. In the 1910s, photography was used by sexologists to document visual alterity, such as by Magnus Hirschfeld in *Das dritte Geschlecht*, or—in the legal context—as visual evidence of violent crime, in particular homicide. Further research might well identify the visual turn in sexology as one of the precursors to those wider societal developments, but there are many questions that remain to be asked regarding the impact of photography, including the discourse of bodily fragmentation—such impacts on the sexological patient have remained uncharted so far.

Voices at the Table: Reflections on a Witness Seminar on the History of Experimental Economics.

Harro Maas, Centre Walras-Pareto, University of Lausanne

In 2010 Andrej Svorenčík and myself organized a witness seminar on the history of experimental economics in Amsterdam. Laboratory experimentation is a relatively new phenomenon in economics that only really took off from the 1990s onwards. The seminar examined the period from the early 1960s to halfway through the 1990s, and we invited twelve experimentalists and a moderator to talk about four themes we had selected in advance: the emergence of the laboratory as a dedicated site of research, the development of the skills of the experimenter, the emergence of a community, and funding. Witness seminars have been used to great effect, amongst others by the Wellcome History of Twentieth Century Medicine Group and the Institute for Contemporary British History. My main contribution consisted of a discussion of our preparations of the seminar, its actual unfolding, and our interventions during the seminar to ensure a polyphony of different voices at the table would contribute to a communal oral conversation about this new scientific practice in economic research.

On Narrative Competition in Coastal Policy Development: The Case of the Sand Engine Pilot Project.

(Lotte Bontje and) Jill Slinger, TU Delft

A large scale sand nourishment was implemented for flood defence and liveability purposes on the Dutch coast. The manner in which different narratives were employed to realise the innovative pilot project, the potential development of the narratives and the roles of different 'voices' in this process are analysed. We interpret the results in terms of a conceptual model of narrative competition in policy development (Bontje 2017), shedding light on the active use of storytelling to engender support for policy change. Negative voices die down as the 'winning story' is proclaimed, and the use and confirmation stage of the narrative competition begins. The strong recognition accorded to the pilot project narratives by actors in the coastal policy community and the ease with which they reflect upon narrative dynamics indicates the promise of applying narrative methods to the fields of coastal engineering and policy development.

Weaving Narratives from Data and Myth: Multi-Vocal Heritage Interpretation at Glastonbury Abbey.

Rhianedd Smith, University of Reading

Glastonbury Abbey is rumoured to be the burial place of King Arthur and multiple overlapping narratives regarding subjects as diverse as goddess worship, ley lines, and the Holy Grail are told to visitors by both official and unofficial sources. It has also been a site of archaeological research over some thirty-six seasons, whose data and findings have only recently been interpreted, in many cases. All these narratives intersect most clearly around the site of the Lady Chapel, site of the first church at Glastonbury—'ground zero' in terms of both spiritual significance and archaeological research. It is therefore an apt focus for interpretation in terms of 'multi-vocal archaeology' or 'co-curation', as its heritage interpretation is negotiated between archaeologists, curators, and the public, not to mention unofficial guides drawing on a range of spiritual myths. Other voices can conflict with archaeological

interpretations, especially when they challenge various origin myths, yet it must be recognised that archaeology, too, does not speak with a neutral voice. And indeed, if these narratives do not necessarily weave together into one coherent account, they tend to co-exist in relatively harmonious polyphony, for the Lady Chapel and Glastonbury more broadly.

Ordering Cyclones: The Courtroom in the Making of Meteorological Sciences in Colonial India.

Debjani Bhattacharyya, Drexel University

This paper explores the development of nineteenth-century 'cyclonology' to argue that it emerged out of the complex interplay between narrativization and occlusion. Exploring the records of the Marine Court in Bengal and the writings of Henry Piddington, a cyclonologist who also served as the President of the Marine Court, this talk argues that two key modes of narrativization were central in the making of atmospheric science: the legal bracketing of contingencies in the courtroom, followed by the narrative patterning of wind movements in Piddington's writings. Throughout the nineteenth-century the oceans functioned as a 'field', a 'laboratory', and an 'archive' of geophysical and meteorological sciences (Naylor, 2015). As distinct domains of doing science, the field, the laboratory, and the archive had different instruments for narrating, documenting, and disseminating knowledge. Storms and wind patterns were documented and narratively ordered in ship logs, cyclone memoirs, scientific publications, and court decisions. As my archival work reveals, eighteenth- and nineteenth-century Marine Court cases pertaining to shipwrecks were a central archive for the science of cyclonology. Indeed, the search for a 'plausible narrative' about shipwrecks, captain's duties, and responsibilities in the courtroom was deeply embedded within its socio-political context. How then do we understand the traffic between legal and scientific narratives? I conclude by showing that legal narrative operated as a scaffolding for the semantic ordering of wind patterns as cyclones, typhoons, and hurricanes.