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Medical and scientific conferences as sites of sociological interest: a review of the field

Abstract

Conferences play a pivotal role in the production and circulation of knowledge and in shaping and establishing academic and professional disciplines. As collective events, they facilitate intense moments of interaction where scientific and medical knowledge can be observed in the making. This paper calls attention to conferences as fascinating sites for sociologists of science, technology and medicine. By bringing together authors who look at conferences from different areas within the social sciences and using a variety of data gathering methods, this paper provides a comprehensive introduction to the field of conference studies and hopes to inspire greater reflection about the nature of conferences and their potential within research.

What are conferences?

"As the Internet expands, more and more people are saying that it is time to put an end to these expensive little holidays for scientists in pleasant places. But conferences are vital [...] conferences are the places where the community learns the etiquette of today's truth" (Collins 2004, p: 451)

As Collins (2004) suggests, conferences are more than simply an assembly of people gathered for the transmission of information: conferences are vital for the life of science and medicine. Of course conferences offer the opportunity for members of a collective to gather together, but they are also sites where relationships are forged, statutes and roles are distributed, reputations are fought and established, and where the history and future of disciplines are enacted, remembered and planned. Conferences have a long history, and have been recorded as frequent events in the life of academics and professionals since at least the 17th century. For example the Accademia Nazionale dei Lincei, the Accademia degli Investiganti and the Royal Society, founded in 1603, 1650 and 1660 respectively, all had regular meetings for their members (Söderqvist & Silverstein 1994). Yet studying conferences as important occasions within the life of science has not received as much attention from social scientists as has the laboratory (Knorr-Cetina 1999; Latour & Woolgar 1986) or the clinic (Davis 1987; Featherstone et al. 2005; Strong 1979). In writing this review we recognise that conferences are not a new topic of enquiry. By bringing together authors from different areas within the social sciences and humanities (e.g., medical sociology, science studies, history of science and technology), this review establishes conferences as significant and viable sites of sociological research.

Although it is difficult to classify what might count as a conference, there are a number of features that would distinguish a conference from a small meeting for example. At conferences people are bureaucratically processed during registration (e.g. given a name tag), physically isolated from the 'outside world' and placed within an institutional setting with particular rules of conduct, schedule and an intensity of interaction that might not normally occur in day to day life (cf. Goffman,

1961; Velthuis, 2006). In this confined environment and for a limited amount of time, participants carry out 'formal conference activity' such as attending and giving paper presentations and plenary sessions, participating in workshops and round-tables, presenting, reading and evaluating posters, as well as more mundane, but equally social activities like eating, smoking, and drinking. There is a carnavalesque tone to conferences, or as others have called it: a "collective effervescence" (Dimond, Bartlett and Lewis, 2015; Pels, 2003). Attending conferences ruptures the quotidian routine of the laboratory, the lecture hall and the office, yet at the same time conferences are a sort of extension of the workplace (Heath, 1998). Some conferences also offer the opportunity for people of different social worlds to meet and interact, for example at patient oriented events where physicians and representatives of the pharmaceutical industry are present and interact. Here we focus on conferences attended by scientists, clinicians, patients and families, nonetheless we recognise that there are other kinds of conferences including trade fairs, product launch events and smaller business meetings.

But what exactly is interesting about conferences and why and how, should we as social scientists, pay attention to them? In this article we highlight how researchers have used conferences to explore aspects of medical and scientific work, including the trading of clinical and scientific images, the performance of the doctor-patient relationship and the maintenance of a discipline and its community. We then consider how historical ethnographic research and documentary analysis have been used to explore conferences as commemorative and celebratory occasions and as signifiers of a field's nature, history and future. Finally, we focus on discourse analysts and linguists who look at the interactive elements of 'conference talk'. This review aims at offering the reader a comprehensive look at

what has been done in the field of conference studies from different areas within the social sciences and using a variety of data gathering methods. Hopefully this will also inspire people to engage in studying what happens around conferences.

What do conferences do?

writing from an anthropological perspective, Lomnitz (1983) provides an excellent starting point for helping us understand the social significance of conferences. By comparing scientific meetings to the summer rituals of the Eskimos, she identifies several features of these 'tribal get-togethers' that mark them out as important within the life of a community. For example, Lomnitz discussed how conferences facilitate the trading and exchanging of ideas, data, samples, and slides which she identifies as the "stock-in-trade of the scientific community" (1983, p. 5). She also refers to the rites and rituals that make up the social structure of the conference. Take for instance the allocation of a particular room, having someone chair a session, giving out prizes, and the use of titles are all actions endowed with symbolic meaning. Finally, Lomnitz highlights how conferences facilitate sociability, providing an opportunity for relationships to be formed "across hierarchical lines" (1983, p. 7) and thus alliances to be established.

More recently, Collins (2004) underlines how formal and informal aspects of conferences have an important role in generating trust and a sense of community, something he identifies as crucial for science. He points out that conferences are where "the community learns the etiquette of today's truth" (2004, p. 451) including the 'right' terminology and the way members should react in face of disagreement, controversy and conflict. What distinguishes Collins from many others, is that he

highlights the significance of informal contact. He refers to the discussions that take place in-between sessions, in the corridors and at the bar over a drink.

Likewise Mills (1987), in his personal reflections of attending sociology conferences, identified that it was sometimes easier to meet people in the sauna in the hotel rather than during the conference itself. However, Collins is more explicit about why these informal occasions matter. He suggests that it is in these face-to-face encounters "where tokens of trust are exchanged, the trust that holds the whole scientific community together" (Collins 2004, p. 451). Furthermore, Collins analyses his own role as a sociologist at these events.

Both Lomnitz and Collins provide compelling evidence to support our thesis that conferences are significant 'places of performance' in the social production of knowledge (Henke & Gieryn 2008; Wainwright & Williams 2008). In the following section we explore further how conferences are places of work, specifically focusing on how they enable the trade of information, ideas and biomedical artefacts and how some events can reproduce doctor-patient relationships.

Trading of ideas: conferences as an extension of the laboratory

Heath's (1998) paper on Marfan Syndrome provides a clear example of how conferences offer the researcher an opportunity to observe the production and performance of scientific and medical work. Heath stresses that conferences "provide an extension of and a counterpoint to the day-to-day practices of the laboratory and the clinic, the ongoing work of voluntary health organisations, or the lived experiences of people with Marfan" (1998, p. 73). Heath's focus was visual imaging of genetic information (particularly photographs, slides and posters), how

these were used to represent science, medicine and abnormality and how the images were interpreted, appropriated and exchanged. Heath observed how hierarchical roles were displayed within the ritualistic events of scientific conferences. On one occasion, for example, she describes the tension between two research teams while presenting their latest findings at the poster session, highlighting differences in how lower ranked researchers behaved towards the work of the other team compared to how directors of the teams behaved.

Conferences as an extension of the clinic

Whereas Heath noted the interactions between three social groups: laboratory researchers, clinicians and health advocates, her primary aim was to document how medical and scientific artefacts are produced and circulated in the context of a rare genetic disease. In contrast, several authors have explicitly recognised conferences as significant for patient groups, particularly in bringing together health professionals and patients. For example, Zakrzewska et al. (2009) explored the expectations of people attending the national conference for trigeminal neuralgia sufferers, using questionnaires distributed at the beginning and at the end of the event. Among other things, Zakrzewska et al. (2009) conclude that the benefit of attending conferences for patients was the possibility of contact with a range of health professionals. Likewise, Creighton et al. (2004), who looked at events organised by the Androgen Insensitivity Syndrome Support Group, found that conferences engendered a sense of trust between patients and clinicians as two groups of 'experts'.

'Hybrid' events: conferences as facilitators of communication across communities

Identifying conferences as 'hybrid' serves as a reminder that these events can bring together groups and individuals with very different perspectives and goals. While Creighton (2004) and Zakrewska (2009) saw medical conferences as interesting because they bought patients into contact with health professionals, Dimond (2014) highlighted that conferences can also facilitate a kind of doctor-patient relationship that can leave audience members vulnerable to uncensored material. Dimond concluded that although social scientists have developed a considerable understanding of the doctor patient relationship within the clinic, little is known about how these relationships are formed or transformed in alternative spaces.

The possibility that conferences can produce or reproduce wider relationships within the field should not be surprising. Madden (2012) recognised that the value of wound care conferences was that they enabled scientists and representatives of pharmaceutical companies to meet to discuss developments in the field and build relationships. However she also noted that this was problematic, reflecting and perpetuating wider concerns about increasing corporate involvement.

Many authors who have focused on hybrid conferences, highlight how these events can be empowering. In the context of sociological interest in citizenship, patient activism and expertise, conferences which involve the meeting of patients and professionals, are increasingly becoming the focus for understanding how identities, relationships and knowledge claims are negotiated and mobilised. In her ethnographic study of lay and professional understandings of familial hypercholesterolemia, for example, Weiner (2009) tracked the activities of Heart UK

(which was formed through a merger of a patient led group and a professional organisation) involving observations of meetings and workshops alongside formal and informal interviews. Weiner developed an empirical understanding of biosociality, expertise and participation by exploring the role of patients within the organisation, how rights and responsibilities were negotiated, the relationship between lay and professional members and competing claims to knowledge.

Understanding how knowledge moves between patient and professional communities, where each learns from the other, is particularly valuable in the case of 'rare disease communities' (Huyard 2009). As part of their research focusing on the social implications of genetic technology associated with achondroplasia, Taussig, Rapp and Heath (2003) describe the National Convention of the Little People of America (LPA), a hybrid event attended by biomedical professionals, LP and their families. Taussig, Rapp and Heath were able to observe the enactment of what they call 'flexible eugenics' during the various sessions and events they attended, such as the Medical Advisory Board meeting, and through informal conversations with conference attendees. Importantly for our purposes, Taussig and colleagues also highlight the emotion of the event, noting the tone of discussions, as well as the silences. They noted, for example, how certain practices such as limb lengthening surgery and prenatal screening, were negotiated and established as acceptable and empowering in certain circumstances, while on some occasions these were discussed in terms of historical practices of eugenics and seen as potentially threatening (for example, they observed how the options available for LP during pregnancy were hotly debated amongst attendees).

For Rabeharisoa (2006) however, who observed conferences of the French muscular dystrophy association (AFM), it was important to recognise how roles and

identities can be blurred. She gives the example where "[a]n orthopaedic surgeon may participate in a conference organised by AFM on muscular dystrophy, and be a member of the scientific committee of a firm specialised in prostheses, some of whose projects the AFM finances" (2006, p. 569). While this echoes Madden's (2012) concerns about the involvement of industry, most importantly it reminds us that conferences, in many ways, might be considered 'unscripted' (McEwan 1998, p. 1258) where all those attending, including organisers, presenters and audience members, drawing on various identities, are able to contribute to its production.

Ethnographic research such as that conducted by the above mentioned authors provide us with a rich understanding of how conferences are sites of interaction. Yet researchers often fail to recognise that going to conferences, *and writing about them*, remains groundbreaking. In contrast, the authors that we discuss in the remainder of this article have an explicit focus on conferences, as is the case for those using conferences as historical texts and those focusing on linguistic aspects of conference talk.

Conferences reflect and construct the field

Söderqvist and Silverstein consider that "research schools, museums and laboratories have been scrutinized in detail, [while] studies of scientific meetings [...] have [...] been absent from the agenda of science studies" (Söderqvist & Silverstein 1994, p. 514). They approach conferences as "political-rhetorical units", which are "arenas for negotiation of what constitutes interesting research topics, for delimitation of cognitive territories, and for distribution of scientific status and roles within the disciplinary hierarchy" (Söderqvist & Silverstein 1994, p. 514). In

their work they used a breadth of material sources including conference texts and outputs (such as proceedings) to develop a database that they used for a cluster analysis. Specifically, they looked at lists of attendees of immunology conferences held between 1851 and 1972 to identify a relationship between particular topics and frequency of attendance. They present this approach as being particularly useful for mapping new and emerging disciplines, in this particular case, for understanding the establishment and dynamics of immunology as a scientific discipline and a specific research area. Martens and Saretzki (1993) also traced emerging and dominating trends in science and technology. Their 'conference approach' follows a scientrometic perspective taking into account quantitative aspects (including the number of sessions, papers and presenters and length of duration) and qualitative aspects (including the setting, the actors and topics addressed) to examine differences between conferences, the fields they represent and participation patterns of scientists and research groups. Likewise, Rowling-Jolivet and Carter-Thomas (2005) depict the value of conferences in the process of academic socialisation, suggesting that "conferences play an essential role in the life of research communities, and the conference presentation fulfils distinctive functions in claim-making and in marking out a research territory" (2005, p. 45).

Commemorative and celebratory events are other conference-type events in which it is possible to observe how scientists create history and how they continue to construct their field. Examples of this are Abir-Am (1992), who described the 50th Anniversary of the protein Xray photograph, and Richmond (2006), who documented the 1909 Darwin celebration. Like Lomnitz and Collins, Abir-Am and Richmond recognise the importance of conferences for maintaining a sense of community, but by looking at conferences through a historical lens, each author

locates these events within the context of the establishment of a discipline as well as changes within wider society.

Abir-Am (1992) conducted what she describes as a 'historical ethnography' of a conference held in 1984 to celebrate the first protein X-ray photograph (taken and interpreted by J.D. Bernal and D. Crowfoot in 1934). Abir-Am was interested in the role this techno-scientific achievement played in the construction of the field's past, present and future. She noted that while the photograph itself was not initially considered prestigious (there was only a brief announcement in Nature), during the anniversary ceremony it was celebrated as the beginnings of the prestigious, revolutionary and highly fashionable discipline of molecular biology. Abir-Am highlights instances of 'historical authenticity' including institutional connections (the key-note speakers were institutionally associated with JD Bernal and Cambridge), temporality (the event was taking place on the same date as the submission to Nature) and physical location (the event took place in Cambridge) which established "continuity between the disciplinary clan's past and present"(1992, p. 338), and where the celebration itself was transformed "into a special vehicle of conferring social reality upon authentic, yet select, conceptions of historical truth" (1992, p. 340). Overall, Abir-Am offers a clear example of how scientific events in general, and anniversary events in particular (which could of course include Nobel Prize ceremonies, memorial lectures or presidential addresses) play a role in (re)constructing a field's history through "the construction of a collective memory and moral genealogy of science" (1992, p. 323).

Richmond (2006), also a historian of science, conducted an analysis of a three day commemorative event. Whereas Abir-Am was able to attend the conference she was documenting, Richmond focused on the 1909 centenary of

Darwin's birth and the 50th anniversary of the publishing of *On the Origins of* Species. Richmond used a large array of sources such as photographs and transcripts of speeches, correspondence between organisers and attendees, printed accounts of the event from popular press and scientific journals, committee meeting minutes, formal congratulatory texts presented by learned societies and other archival records. This resulted in an in-depth analysis of the intricacies of biology during the last years of the 19th century and the beginning of the 20th. She describes the celebration as "a treasure trove of materials that can profitably be mined from a number of perspectives to provide a fine-grained assessment of the status of Darwinisim on the eve of the new genetics" (2006, p. 450). Richmond highlighted the important role of the conference organisers, who "consciously sought to give equal time to representatives of all the major branches of 'Darwinism" (2006, p. 462) but in doing so, played a significant role in constructing "the boundaries of Darwinism" (2006, p. 462). She pointed out that speakers and attendees "sought not only to honour Darwin as a revolutionary scientist and cultural hero" (2006, p. 448) but also to generate consensus about the fit between established and newly emerging theories of evolution. In addition, Richmond recognised the wider significance of the event in that it attracted novice biologists, who later proved to be key actors in the establishment of evolutionary synthesis in the 1930s and 1940s (see the work of Hubber (2006) for a similar example).

By using a variety of sources, Abir-Am and Richmond were able to demonstrate a link between the event and changes within the discipline and within society. Some authors have also recognised that conferences are a tool to predict future change. Söderqvist and Silverstein (1994) and Martens and Saretzki (1993) for

example use conferences to identify current and future trends and map emerging disciplines

We have seen how the 'treasure trove' of conference materials (Richmond 2006:450) including proceedings, abstract books, advertisements, media coverage, agendas and lists of attendees, can be used for assessing the nature of a discipline and its community, and for locating these events within a broader context. Another kind of text associated with conferences, which most of us are very familiar with, is academic journal articles. However, the relationships between conferences and journal publications are multiple and multi-directional. Fennewald (2005) for example suggested that the number of presentations that are subsequently published is an indicator of the importance of that particular conference within the field. Whereas conferences enable presenters to announce their findings in advance of academic publications, subsequent publications also have the potential to extend the discussions which initially take place during conferences (Wacquant, 2003) and thus "the impact of the celebration continue[s] to resonate" (Richmond 2006, p.

Journal publications are also important to mention here because articles (and text books) have traditionally been used to explore knowledge claims, particularly within the sciences. Myers (1992) for example, highlighted how a Sociology of Scientific Knowledge (SSK) approach to knowledge helps us recognise the socially constructed nature of scientific facts, that is, how scientific statements are considered fact simply because they appear in print. Citing a lack of research in comparison to the wealth of literature on academic texts, Dubois (1980, 1985) laid the foundation for research focusing on conferences as a forum for understanding

language, discourse and interaction. There has since been a number of authors who take conference presentations as their starting point to explore claims to knowledge.

The language of conferencing

Some authors who analyse the 'language of conferencing' (Ventola et al. 2002) make an explicit comparison between the flexibility of talk facilitated at conferences with the rigidity of printed texts. This is particularly so for those with an interest in the interactive features of conference presentations including Webber (2005) who analysed medical conferences and Rowling-Jolivet and Carter-Thomas (2005) and McKinlay and Potter (1987) who focused on scientific conferences.

Webber (2005) presents a comparative analysis between conference presentations and written texts. Drawing on the transcripts of the presentations given at the International Diabetes Conference, she identified the frequency of certain words and phrases spoken during the talks (such as use of 'you', 'I', 'we' or 'I think') and compared these to the articles published by the same 'discourse community' (2005, p. 159). Webber identified conferences as distinct moments of communication, different from meetings or written articles because of their interactive nature and frequent informality. Importantly, Webber highlights how the style of presentation relates to participants desire to maintain an atmosphere of cooperation. She was interested in how the personal sphere was brought into presentations, particularly how speakers refer to their own role in research and to their personal relationships with patients. Whereas bringing in the realm of the personal might "bring closer the distant nature of the material presented" (2005, p.

166), Webber also suggests how particular kinds of talk can be used as a strategy to manage competition. For example, she highlights how 'imprecise figures' can be used as a hedging device to give the impression of detachment and modesty, stating that as "markers of uncertainty, they serve to realise the status of equals" (2005, p. 174).

Webber's approach is useful because she provides a direct comparison between types of conference and other places where professional communication occurs. Of course one important difference between conferences and printed text is that conferences enable an explicit relationship between presenter and audience. McKinlay and Potter highlight this by pointing out that conferences are "highly public arenas where talk is *designed* to be heard by scientist peers" (1987, p. 446, emphasis in the original). They used transcripts of presentations in order to explore how speakers designed their talk when presenting their work to their audience. Like Webber (2005), McKinlay and Potter consider that the 'public' nature of conferences poses a problem when accounting for error because scientists on a public stage wish to avoid accusations and disagreement. They found that presenters engage in strategies to negotiate disagreement on stage, and the anonymisation of individuals is one tactic to avoid dispute (McKinlay & Potter 1987).

Reflecting McKinlay and Potter's understanding of how disagreement is negotiated, Rowling-Jolivet and Carter-Thomas (2005) also draw attention to the importance for presenters in attending to their relationship with the audience. They depict the value of conferences in the process of academic socialisation, suggesting that "conferences play an essential role in the life of research communities, and the conference presentation fulfils distinctive functions in claim-making and in marking out a research territory" (2005, p. 45).

Conclusions

For a long time now, the laboratory and the clinic have been viewed as 'exemplary sites' of knowledge production (Sismondo 2004). However, as we increasingly recognise the sciences as dynamic spheres of engagement involving interaction across multiple sites and agents (Amsterdamska 2008), we suggest it is time to acknowledge the role that conferences play within this production. In this paper we have brought together literature showing that conference studies has been developed and informed by researchers from across many disciplines using different methodological approaches. By doing this, we hope to have established conferences as significant and viable sites of sociological research.

In accord with the authors we have reviewed, this paper aimed at recognising that conferences are different from other work spaces because they foster a unique relationship between its actors. Conferences facilitate the interaction between a community of actors that might meet only on occasion, the exchange of ideas and artefacts, the establishment of community membership, and the development of relationships within and across communities. They offer an intensity in interaction brought about by its temporal nature and spatial constraints. Pels (2003) highlights that conferences operate with a different rhythm than day to day interaction at the work place. Attendees interact in a more public scenario and at a 'faster' rate. Take for example the Q&A moment, it is immediate and with little time for both listener and presenter to think through what is being said (particularly compared to the dialogue that takes place within journals). Likewise, conferences tend to favour a presentation strategy aimed at creating high impact on the listener, what Pels calls

"power speech" (2003, p.216). Webber suggests that the "ephemeral" character of presentations means that attendance by members of the community becomes particularly important (2005, p. 176).

But can all conferences be described like this? Due to a lack of critical understanding of the nature of conferences, we have limited our comments about classification. Future research should question whether the type of conference matters for the kinds of knowledge or interaction produced. Whereas the 'small conference' was described as an important innovation in communication (Mead 1968), is it of sociological interest to distinguish a small local meeting from a large multi-national event? In what ways are medical conferences similar or dissimilar to scientific conferences, and what is the difference when events are attended by health professionals, scientists, researchers, policy makers or patients? On a basic level, we have referred to both scientific and medical conferences, and it is interesting to note that Madden (2012, p. 2050) suggested it would be a 'category mistake' to approach wound conferences as academic conferences rather than trade fairs.

Many questions about the nature of conferences still remain unanswered.

Whereas Latour and Woolgar (1986) highlight the role of tacit knowledge within the laboratory, what kinds of knowledge are at play within the conference, how is membership legitimised and how does the 'community of practice' shape its conferences or vice versa (Lave and Wenger 1991)?

We have highlighted the diverse research methodologies which have been used to interrogate, observe, record and document the kinds of work performed at conferences, but we have found little methodological reflection on how conference

data is recorded and interpreted. One example is Huyard (2009) who mixes her observations of conferences with informal discussions held at the conference and with formal interviews that were (probably) held elsewhere. Whereas Blackstone (2009) was explicit in her use of "down times" for engaging in discussion, we know very little about how researchers find and use these 'backstage' moments (Goffman 1959). To address this deficit we suggest that researchers be explicit about when they are using data from conferences and to be reflexive about the methods they are using. How does the ethnographic researcher, for example, negotiate the 'fuzzy' boundaries of being both an observer (watching and recording) and participant (clapping or joining in collective displays of emotion as an audience member), how are field notes recorded and analysed and how is informed consent attained?

As we see, there are considerable gaps in our understanding of what conferences do and how they should be approached within research. The lack of a collective body of sociological reflection is surprising. Our familiarity with conferences, as academics and researchers, might explain why the role that conferences play in producing these kinds of interaction and knowledge can remain unquestioned.

By opening up the field of conferences studies we hope to inspire a greater reflection about the nature of conferences and their potential within research, and encourage others to consider developing this vital field in future. Conferences are of course, a product of technological innovation and improvements in transportation and the influence of consumer society have played an important role in supporting a conference culture (Söderqvist & Silverstein 1994). However, mobile technologies are now challenging our understanding of the nature of conferences, particularly as bounded sites. The use of live streaming, blogging and tweeting

during conferences pose interesting questions, including who makes up 'the audience' and whether the possibility of unsolicited and immediate publication through social networking influences conference behaviour and conference talk.

In drawing attention to authors who have contributed to our understanding of what conferences do, this article provides a much needed introduction to the field of conference studies and establishes these events as key sites for sociological enquiry for future research.

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