

Putting the Science in Fiction': A One-Day Workshop Focused on Interdisciplinary Collaboration and the Public's Access to Science through the Arts

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With increasing emphasis in higher education put upon interdisciplinary collaboration, this spring's 'Putting the Science in Fiction' event was well timed to promote recent successful endeavours and allay fears that science-art partnerships have benefits for only one party. Small, interdisciplinary conferences frequently suffer from a lack of institutional support, but this University of Manchester workshop held on 25 April 2012 was co-hosted by the Centre for the History of Science, Technology and Medicine (CHSTM), the Centre for Interdisciplinary Research in the Arts (CIDRA), and the Centre for New Writing. With this strong foundation, the workshop had a number of advantages over other small-scale seminars. Leading research scientists, renowned and award-winning writers and academics, a producer/screenwriter/composer for film and television, and the founder of a publishing house shared panel sessions addressing the interactions of their fields – a distinguished company of guest speakers in an intimate setting. There was also an impressive turnout for a daylong workshop, with around one hundred people in attendance ranging from interested members of the public and amateur writers to graduate students, lecturers, and researchers. The broad appeal of the topic was evident and, to further that end, the event was held free of charge to allow wider participation. A *hashtag* was designated for the day, #SciFicManc, so that

conversations could continue on Twitter whilst panellists spoke, and people unable to attend in person could still follow and contribute to the proceedings online.¹

Announcements advertising the workshop began:

Many people look suspiciously at science in fictional media and may ask themselves: Why don't the creators of fiction ever talk to real scientists? In fact, those who write novels, craft television scripts, create movies, and produce stage plays do speak with scientists on a regular basis.²

This question–and–answer arrangement laid the groundwork for the two stated aims of the day. First, there was a wide-ranging conversation regarding the current relationship between the arts and entertainment industry, through which the public is exposed to a great deal of (mis)information about science, and the scientific community that participates in and has access to genuine scientific data and research. Second, there was an open discussion about creating a co-operative body to organise links between the arts and the sciences, based on the model of the Science and Entertainment Exchange that has been running successfully in the United States of America since its creation in 2008 by the National Academy of Sciences.³ A recurring theme in the workshop was that 'stories have the potential to do harm' and that this could be ameliorated by improving the relationship between artists and scientists so that the public has greater access to science. For example, panellist Dr Phil Manning

¹ Selected tweets, linked resources, and other media have been recorded using Storify. See: Alex Hall, 'Putting the Science in Fiction – #SciFicManc' <http://storify.com/Green_Gambit/putting-the-science-in-fiction-scificmanc> [accessed 30 April 2012].

² The British Society for Literature and Science, 'Workshop: Putting the Science in Fiction' <<http://www.bsls.ac.uk/2012/01/workshop-putting-the-science-in-fiction/>> [accessed 30 January 2012].

³ Brian Vastag, 'A flash of reel genius: Program gives Hollywood writers access to scientists' in *The Washington Post* <http://www.washingtonpost.com/lifestyle/style/reel-geniuses-program-gives-hollywood-writers-access-to-scientists/2012/06/08/gJQAsVAbNV_story.html> [accessed 10 June 2012].

pointed out that the 1993 movie *Jurassic Park* should be more accurately titled ‘Mesozoic Park’, but has instead pushed into the cultural zeitgeist a great many factual inaccuracies about palaeontology. Several of the scientists in attendance shared, as another example, the general trend in stories to show results rather than process, leading to an idealised understanding of science and, concomitantly, unrealistic expectations. There was also a concern that the trope of science (or scientists) being boring can discourage young people from pursuing science in their studies and careers. One of the attendees pointed out that the term ‘science fiction’ is occasionally used colloquially to refer to faulty or incorrect science and that this usage is disparaging to the positive relationship that can exist between science and the arts; further, ‘science fiction’ as a disparaging term has now been extended to authentic science that is politically inconvenient, but increasing the public’s access to science through the arts is a constructive way to address this. Overall, it was agreed that good scientists must also be good storytellers to communicate and defend their work and that interdisciplinary collaborations hold rewards for all participants.

The event was variously described as a workshop and as a symposium, but there was just one prepared paper given and the relaxed, conversational atmosphere throughout all three sessions and the final discussion clearly prioritised the advantages of a workshop in allowing all participants to act as contributors. Interdisciplinarity was a central and prominent theme as a matter of course, as was highlighted in the portion of opening remarks that was delivered by Jackie Stacey, Professor of Cultural Studies at The University of Manchester and Director of CIDRA. In Session 1, scientists (Professor Matthew Cobb and Dr Tim O’Brien) and science fiction authors (Simon Ings and Justina Robson) who had been involved in collaborations for the 2009 collection of short stories *When It Changed* were joined by the Founder and

Editorial Manager (Ra Page) of Comma Press, which had published the book.⁴ Everyone shared their experiences of confronting the atomisation and isolation that seem to characterise the gap between the art and science disciplines and how rewarding it was in those cases where the collaborations yielded successful scientific fiction.

An audience member raised for discussion the view that trying to bridge the divide between arts and sciences runs the risk of emphasising an ill-defined dichotomy. Who is responsible for delineating art subjects versus science subjects when certain disciplines have been ‘stranded on the wrong side of the faculty divide’ for historical or administrative reasons? For example, Linguistics and Archaeology were raised as subjects that would not benefit from a scheme aimed at increasing access between arts and sciences (rather than within and across arts and sciences). Justina Robson said she had sympathy with this view, pointing out that she holds a joint honours degree in Philosophy and Linguistics and stating that she personally considered Linguistics to be a science worthy of credible treatment in fiction.

Session 2 addressed science on stage and screen, with a panel consisting of Dr David Kirby (Senior Lecturer in Science Communication Studies), Dr Phil Manning (Head of the Palaeontology Research Group, University of Manchester), Antony Neely (speaking in his capacity as screenwriter and composer for the science-fiction drama film *Dimensions*), and Dr Kirsten Shepherd-Barr (Lecturer in Modern Drama). This was the weakest session, perhaps for straying at points from the theme of

⁴ More than a dozen authors were paired with scientists in a range of fields to discuss current research before writing their short stories. In an unusual twist for such collaborations, the scientists were then allowed to respond to the resultant fiction. According to Geoff Ryman, editor of the volume, ‘The scientists, who supplied brief afterwords to the stories they helped to shape, were delighted [...] “to see their research walking and talking”’. Matthew Reisz, ‘Putting the science back into fiction’ in *Times Higher Education* <<http://www.timeshighereducation.co.uk/story.asp?storyCode=409114§ioncode=26>> [accessed 10 June 2012].

fictional depictions of science and instead speaking about non-fictional works like documentaries and BBC specials. Even so, the insights offered by Dr Manning in particular regarding the role of a scientist contributing to televised documentary series were valuable and had clear implications for more fiction-based work.

Audience questions for this session revealed a great deal of enthusiasm for making scientific research as widely accessible as possible and increasing public engagement, but anxiety about doing so in a way that is recognised and rewarded by universities, funding bodies, and the Research Excellence Framework. Consideration was also given to the ‘two cultures’ problem typified by consulting scientists interfering with television and movie sets to boost verisimilitude without understanding the implications this has on filming – this is essentially, as Dr Kirby (author of *Lab Coats in Hollywood: Science, Scientists and Cinema*, 2011) pointed out, an issue of scientists not respecting entertainment industry professionals in the same manner that they expect respect in return. As he explained in the University of Manchester’s press release for the workshop, ‘My research demonstrates how collaborations between scientists and creative professionals can be successful, but the key is to help these communities understand how best to work together’.⁵ Concerns were also raised over the stifling effect of non-disclosure agreements on potentially fruitful partnerships that could increase the public’s awareness of pioneering research.

For Session 3 on Science and Science Fiction, Justina Robson returned and was joined by Paul McAuley, Ken MacLeod, Alastair Reynolds, and Geoff Ryman for a panel made up exclusively of distinguished science fiction authors. This was the most successful strand of the day. Their experiences as writers who sought to

⁵ The University of Manchester Faculty of Humanities Press Office, “‘You need each other’, writers tell artists and scientists” <<http://www.humanities.manchester.ac.uk/aboutus/news/display/index.htm?id=8200>> [accessed 30 April 2012].

incorporate scientific accuracy into fictional narratives were revealing and were shared in an entertaining and informal conversation with attendees. They discussed how to balance creative liberties with empirical plausibility, pointing out that having working relationships with scientists often improved their compositions by teaching them that reality could offer up scenarios far more fanciful than their imaginations could. The Guardian quotes Geoff Ryman as describing the need for improved cross-disciplinary access thus:

‘I work with a lot of scientists and one of the frustrating things they find is that all this fascinating stuff is being done which doesn't find its way into science fiction. They say look at the science fact pages – they're so much more imaginative than science fiction.’⁶

Panel and audience members offered up instances of stories that had been hindered by a poor grasp on science, such as the film *Volcano* (1997), where the impossibility of a volcano erupting beneath Los Angeles is so apparent that it becomes an impediment to the plot. Examples like this led to a conversation about the principles of (and relationships between) accuracy, plausibility, adequacy, and authenticity.⁷

The final hour of the day was given over to ‘Discussion of the Issues and Next Steps’, led by the two organisers of the workshop, Dr David Kirby and Geoff Ryman. Working from the agreed premise that the public’s best and greatest exposure to advanced science is through fiction and that the public deserved and wanted better representations of science and scientists, the idea of a UK-based version of the

⁶ Alison Flood, ‘Credible science fiction needs arts and sciences collaboration, say authors’ in *The Guardian* <<http://www.guardian.co.uk/books/2012/apr/24/science-fiction-arts-collaboration>> [accessed 25 April 2012].

⁷ Nicholas Watmough and Kirsty Plowman, ‘Putting the “science” back into “science fiction”’: Professors and writers team up at The University of Manchester’ in *Mancunian Matters* <<http://mancunianmatters.co.uk/content/29043197-putting-science-back-science-fiction-professors-and-writers-team-university-manches>> [accessed 30 April 2012].

Science and Entertainment Exchange was formally presented to the audience for comment and consultation. Dr Kirby has been speaking to the press for some time about the need for such an organisation, pointing out that ‘students are interested in how to get into science consultancy’ just as many authors and filmmakers are hoping to connect with science consultants.⁸ The response to the proposed collaborative programme was mainly positive. Those audience members who were uncertain of the merits of such an exchange had questions regarding its purpose and scope: would it just be for movies and television, as in the United States, or would there be a wider purview covering writers and playwrights? Would the exchange deal only with fictional projects, or would non-fictional work be eligible for the service (scientists seeking out help with grant applications from professional writers was one example)? Their concern was that the focus would be too diffuse to be feasible.

Dr Kirby and Mr Ryman stated their belief that all art–science/science–art collaborations should be included based on the principle that greater interdisciplinary access in any one area would be of benefit everywhere else. Additionally, the six science fiction authors who spoke on panels throughout the day collectively signed and submitted a letter to the *Manchester Review* that was timed to be published in concert with the ‘Putting the Science in Fiction’ workshop. They called for the creation of a ‘substantive body’ for the UK entertainment industry that would bring it into line with the service the National Academy of Sciences offers to Hollywood, concluding with:

More support will be needed to make this dream a reality, so we call on scientists and the creative community to back us. A new body dedicated to this task must surely benefit the millions of

⁸ Linda Nordling, ‘Putting the science into fiction’ in *The Guardian* <<http://www.guardian.co.uk/education/2006/apr/18/highereducation.research1>> accessed 10 June 2012].

people around the world, who value and enjoy British fiction, film, television and the other arts.⁹

The workshop made a compelling case for the bilateral advantages of establishing access routes between the arts and sciences and took a small step towards achieving that goal. It was an engaging meeting with illustrious speakers and a visionary plan. Those in attendance shared the aspirations of the organisers that the quality of fiction, the media profile of science, and the public's experience of the sciences through the arts could all be improved by the work of an interdisciplinary programme that is equally respectful of accuracy and narrative.

⁹ Simon Ings, Ken MacLeod, Paul McAuley, Alastair Reynolds, and Justina Robson, 'Final Frontiers?' in *The Manchester Review*, 8 (March 2012), accessible via <http://www.themanchesterreview.co.uk/content_item.php?id=100088&page=2&issue=8> [accessed 25 April 2012].