Rethinking Society for the 21st Century: Perspectives from Science and Technology Studies

Becky Ayre (Communications and Engagement Officer, Science Policy Research Unit – SPRU)

Summary

On 15 May 2018, SPRU hosted a special event at the University of Sussex that brought together a distinguished group of academics to discuss their contributions to a major new report from the International Panel of Social Progress (IPSP), and to ask 'what follows?' The speakers included SPRU's Professor Johan Schot, Professor Andy Stirling and Dr Cian O'Donovan, who were joined by Professor Helga Nowotny (ETH Zürich), Professor Suzanne Moon (University of Oklahoma) and Professor Judith Sutz (Universidad de la República, Uruguay). The panel addressed an audience composed of people from around the world, including the 42 participants of the 2018 STEPS Summer School and members of SPRU's Advisory Group.

The event, chaired by Dr O'Donovan, foreshadowed the publication of the IPSP report, entitled Rethinking Society for the 21st Century (Cambridge University Press). The speakers contributed chapters in a cross-cutting theme on science and technology for social progress. The event also marked the publication of an IPSP edition of Technology's Stories – published by The Society for the History of Technology (SHOT) – which features new pieces from these authors based on their contributions to the report.

There were a few common themes and questions among the reflections offered by each speaker:

- the processes, achievements and limitations of the IPSP's report
- the myths (or 'ghosts') of modernisation and historical understandings of social progress
- the role for the social sciences in rethinking society for the 21st century and in developing a more nuanced understanding of 'progress'
- Ambitions for the report: where do we go from here to establish meaningful change (turning 're thinking' into 'action')?

There were also calls and claims made for storytelling. Professor Nowotny suggested that stories can act as a bridge between thinking and action in society. While there was no time at this specific event to unpack this idea, I conclude this report by signposting to the debate on the role of storytelling in the social sciences.

Background to the IPSP and the final report

In a world where disparities in wellbeing, resources and power are widening, the IPSP project explores how we can make a better society for the 21st century. This year, the International Panel on Social Progress (IPSP) publishes a research-based report on action-driven solutions to the most pressing challenges of our time. Rethinking Society for the 21st Century includes contributions from a vast international group of social scientists across 22 thematic chapters, on a wide variety of topics, including cities, the future of capitalism, supranational organisations and 'the pluralization of families'.

L–R: Andy Stirling, Suzanne Moon, Judith Sutz, Johan Schot and Helga Nowotny at the University of Sussex, May 15, 2018

The IPSP was committed to collective authorship and deliberation, and productive public discussion. Draft chapters of the report were submitted to the panel and made open for public review and consultation via the IPSP website. The final IPSP report was submitted to Cambridge University Press in 2017, with a final count of 269 authors.

The first speaker at this IPSP event was Professor Helga Nowotny, who described the three parts of the report. The first part looks at current trends – for instance, while, globally, inequality has been shown to have declined, at national levels it has increased – and makes recommendations for possible reforms to address negative trends. Part two addresses questions of legitimacy, and the loss of it. What are the causes for the assaults on liberal democracies happening around the world? What is emerging in their wake? How to deal with the corruption that threatens to undermine what progress there is?

Part three examines transformations in values, norms and cultures, including the roles of education, health and religion. It also draws attention to 'the ghosts of modernization theory', the remnants of the modern project that still haunts ideas of social progress. Part three also observes the unevenness of progress globally, and the multiple meanings and various dimensions of progress. It asks about the institutional innovations required to transform social progress, the role of markets and corporations, and encourages social scientists to be open to experiments in this area.

The final chapter looks specifically at policy. What has policy achieved? Policy in the social sciences have impact in indirect ways, and rarely directly. Dr Nowotny refers to a perceived strength in social science policies, that they show how society can be different: 'it can be otherwise.'

Science and Technology for 'Rethinking Society'

The role of science and technology in social progress is one of four special cross-cutting themes of the report which were identified as having an overarching impact on all the others. In the words of the British materials scientist, engineer and educator Mark Miodownik: 'The material world is not just a display of our technology and culture, it is part of us. We invented it, we made it, and in turn it makes us who we are.'

Professor Johan Schot, in his presentation, explained how the report from the International Panel on Climate Change (IPCC) heralds technology as the harbinger of solutions. For the IPSP report, he wished to introduce an STS perspective on this argument. Following a consultation workshops in 2016, some aims and perspectives on science, technology and innovation were agreed upon. Professor Schot briefly outlined them:

1. The social and technological co-produce social progress. The chapters should avoid technological determinism, but also social determinism.
2. Many different actors innovate in a myriad of ways: not just engineers and scientists but also the users and actors in civil society. What are their different contributions?
3. Social progress unfolds along multiple pathways
4. These multiple pathways need different framings and methods for 'diffusion'. Rather than using such frames of reference as 'developed' and 'developing', STS scholars advocate a 'circulation perspective' which builds up capacities from local to global through the circula tion of knowledge as well as the distribution and appropriation of technological benefits.
5. Social progress is not given, and knowledge about it arises from social processes. Who does social progress favour? Progress is not an end goal but an evolving set of aims.

The processes, achievements and limitations of the IPSP's report

Professor Nowotny, who has been a member of the steering committee for the IPSP, offered some reflections on the IPSP's report: the working process, its strengths and weaknesses. She described the IPSP as a bottom-up initiative, independent and international, and contrasted this with the IPCC, which had brought together people working in environmental sciences with an interest in climate change but reported to governments. This crucially caused conflicts over the wording and the figures in the report, and led to less autonomy for the researchers. The IPSP was not subject to such political censorship, and was radically open (via the project's website) to public review and consultation.

Nowotny remarks on how the report has been able to capture social scientists from around the world speaking with one voice – and with the inclusion of economists, who have been disassociated from social science over the years – engaging with natural and physical sciences. The report is imperfect (of course) but should be considered like a cluster of interactive maps, superimposed, detailing how and where progress is being explored and engaged with.

From the audience, Professor Joanna Chataway from SPRU perceived a 'weak spot' in the IPSP: the final output of this radical collective project is a very conventional three-volume report with a high price tag. Professor Nowotny agreed that the publication alone will not be enough, and events such as this are necessary to promote the panel's ideas and recommendations throughout the world. While she acknowledged that it would have been a nice opportunity to make use of other media, she also felt optimistic that the knowledge in the report will reach its audience, as the history of ideas demonstrates.

Professor Stirling remarked that the report is an 'amazing thing'. It is open to all sorts of criticism: too long, too technical, too much overlap, to many biases, too many gaps, too political, too apolitical, insufficient in terms of race and gender and class dimensions. A question from the audience probed the idea of alternative institutional frameworks: are there any in the report besides capitalist ones? Why should the report support the view, suggested by Professor Nowotny in her talk, that capitalism is immovable? Nowotny responded that the report does not advocate one capitalism, but acknowledges there are multiple capitalisms – a view supported by Professor Schot, who favours a Schumpeterian example of capitalism, setting innovation free – but one assertion that features across the report chapters is that markets are here to say.

Nowotny argued that, while this report does demonstrate the social sciences speaking in one voice to a great extent, it was inevitable that the report would feature contradictions. All the authors in the report are betting on something that is uncertain – the future. These contradictions are not necessarily to be perceived as a weakness, but a strength of the project. The report is a document that asks the public to engage with it, to critique it, 'reporting to societies not to government.' Professor Stirling remarked that it can be used to make us debate and discuss progress, to argue, to disagree: asserting that the process is as important as the end goal.

The myths (or 'ghosts') of modernization: 'enlightenment baggage' and historical notions of the meaning of social progress

In his 1980 book, The Practice of Everyday Life, Michel de Certeau argued that, 'Only the end of an age makes it possible to say what made it live.' (1980: 198) I was reminded of this as Professor Nowotny introduced the idea of the 'ghosts of modernisation', a theme that was picked up later by other speakers in the panel. Professor Schot brought up the subject of Luddism. New historical studies on the Luddites have revealed that they were not against technology in general, but rather the denigration of society by technology. The vision of society which belonged to the Luddites was 'vanished' by the history makers of the enlightenment. But history has its own ghosts, ideas and events which contemporary historians have resurrected, so we may think differently about the past to make better decisions for the future.

In his presentation, Professor Stirling shared a 'rule of thumb' from ethnography, that if you wish to quickly understand a point of tension in a society, ask about the origin myth. Such myths invariably contain stories that illustrate how injustice is justified and perpetuated. 'The origin myth of modernity,' explains Stirling, 'is progress.' Today, the story of humanity is told as a deterministic, linear unfolding; a singular road with one way forward. The IPSP has politicised this notion of 'progress', exposing it as the central myth of modernity. It also advances the idea of progress, away from its enlightenment shackles. Rather than considering how society can take a role in the possibility of process (along a given spectrum), it focuses on how social agency can have a role in determining the directions of that improvement.

In her presentation, Professor Moon, co-author on the chapter covering religions and social practice, referenced Helga's 'Ghost of modernization theory' comment, calling it 'enlightenment baggage', and explained how this idea came into discussions among her author group of why religion is considered to have such a regressive and obstructing role in social progress. It was desired, and forecast, by moderns of the mid-20th century that religion diminish from societies completely over time. It hasn't. It was also a belief of the moderns that religion stands in opposition to scientific progress, when evidence of this, historically and today, is scarce. In fact, even more important to contemporary debates on religion, social progress and climate futures, there is more evidence to support the opposite assertion. For example, the Evangelical Environmental Network, views climate activism as a fundamental aspect of spiritual duty.

An 'old conflict theory' between science and religion, which Professor Moon associates with this enlightenment baggage, makes significant assumptions about religion. It suggests religion is socially backwards and does not accept science. This assumption precludes any consideration of contemporary debates about religious doctrine and scientific discovery. It also restricts religion to a 'mental activity', maintaining that the spiritual realm is necessarily separated from the physical one. The consequences of such an assumption for climate change discourse is demonstrated by a recent court case involving the Navajo and Hopi nations against a ski operator who was spraying toxic waste on a sacred mountain. A judge ruled against the Navajo and Hopi nations, concluding that religion is 'entirely mental' and therefore the deni-

gration of a sacred mountain cannot impede religious practice. Professor Moon indicated that this example may point to the unevenness (discrimination) in the law when it comes to religious groups: it is reasonable to speculate that the ruling may have been different had a white Christian community been prosecuting.

The narratives of religions and their relationship with technological progress are, as Professor Schot demonstrated with the Luddites, biased and bound to ideologies that seek to undermine what is a more nuanced and complex set of perspectives. There is a lack of literacy on religion in this area, and only the negative stories seem to make it through. The 'old conflict theory' of religion and the modern myth of progress are not only false but also obstruct progressive ways of working with society and science to create positive change.

The Role of Social Sciences: 'It could be otherwise'

In attempting to account for religion in new waves of social progress, how should religious fundamentalism and nationalism be dealt with, as well as the discriminations that occur on a societal level connected with religious beliefs? This was a question from the audience. In response to this, Professor Moon suggested that it is possible for social scientists to argue that not all conflicts are drawn on religious grounds. By focusing on context, social science can create a space to see and think differently and perhaps imagine how progress can be made – 'religious conflicts should not simply be reduced to nothing but religious conflict.

This was another common theme in the discussion: the roles and responsibilities of social sciences. Professor Nowotny pointed out that when people think of progress, they assume 'technological progress' leads and social progress follows in its wake, but the IPSP, in assigning science and technology as a cross-cutting theme of their report, has shown how these two notions of progress are more intimately related. Professor Sutz argued that much of the discourse around technological progress assumes an unstoppable force is at play in transforming social and economic spheres. This precludes any notion of 'who commands these changes', who funds these changes and who oversees them. While the results of technological change can include positive social impact, this is not guaranteed, and inequalities prevail.

The work of the IPSP makes clear that social progress is mediated by social, economic and political interests, and particularly by power relations. Professor Sutz summarised the findings and recommendations from her IPSP report chapter on inequalities, which has a particular focus on the global south. Sutz gave examples from the health sector that illustrate the unevenness or the multiple directions of social progress in practice. These stories affirm that nothing is pre-determined and 'trend is not destiny'. The assertion 'there is no alternative' is a 'socially unacceptable perspective.'

Professor Sutz argued that social science should not continue to play the 'little sister' to science and technology, but more of a 'big sister' role, determining the rules and giving normative guidance from the start, to point to the reality and necessity of alternatives. Social progress has been compromised by a divorce between social policy making and science and technology policy making. The multiplicity introduced by social scientists should be understood as fostering better working relationships and understanding between the two, proving how they are not mutually exclusive in the pursuit of social progress.

The return of experts

By failing to recognise the social aspect to the role of scientific work, a gap has emerged between 'expertise' and 'society'. In light of this, Professor Nowotny asks, how might the social sciences be 'reloaded'? Are there new way of knowing, repositioning expertise in the climate of 'fake news' and the denigration of experts, the origins of which also lead back to the 'ghosts of modernisation' and its emphasis on technocratic expertise and framing?

In the process of creating this report, the social scientists in the IPSP steering committee have been forced to address some of their own professional biases. Professor Moon recalled that when she and her co-authors were invited to write their chapter for the report, the underpinning question, which reflected the institutional biases regarding the role of religion in society, was 'what do we do about all this religion that is obstructing real progress?' Moon and her co-authors had to first address this assumption, which the field of religious studies already knows to be false.

Besides this, Professor Nowotny argued that it is social science that has crucial capacity for 'reflective contextualisation', which can combat the denigration of expertise in populist politics. Professor Schott went further to suggest that basic science is fundamentally practical, so all scientists need to be able to explain their work, not just to their immediate colleagues but to society. For Professor Stirling, it was a matter for pluralism: the report asserts how knowledge matters, and that experts matter. If expertise in panels such as this one and others connected to the IPSP, conduct themselves in a plural fashion, we might find the perceived 'threat' of expertise be diminished.

Ambitions for the report: where do we go from here to establish meaningful change?

For Professor Nowotny, one of the guiding questions of her career in research is 'What follows?' The report contributors collectively recognise an obligation towards the 21st century, with a long-term outlook. She referred to the report poetically as a 'normative compass', oriented towards human dignity and social justice. It invites people to follow this direction and should attract a broad range of stakeholders, but for it to have an impact, its findings need to be shared widely.

Professor Stirling argued that the notion of alternatives and 'It could be otherwise', which the report demonstrates, has radical importance and significance to representative democracy, which requires the existence of alternatives to function. Most liberal political systems appear to believe that multiplicity equals chaos. Stirling has a very pragmatic response to this point: 'No one is saying there are infinity things to do, but simply that there are a number of things; all legitimate, equally sensible.' The report, therefore, has a significant contribution to make to democratic action for social progress.

The question would then be 'how?' Professor Moon emphasised the importance of dialogue with the report findings to support the multiple possible directions of social progress. But how do you bring other parties into these dialogues? Religious leaders are often embedded in societal groups that are left to bear the brunt, and face the cost, of policy initiatives. The kind of reinforcement theses leaders can therefore bring to discourse on social progress is connected deeply with the concerns of these communities. They can therefore be effective partners in the kind of participatory processes, secular together with non-secular, desired for the IPSP report to work towards social progress.

Stories for social progress: turning 'rethinking' into 'action'

Thinking and imagining is potentially boundless, but in the realm of action, there are constraints. The 'bridge' between the realm of thought and the realm of action, suggests Professor Nowotny, is formed of stories and storytelling – the power of stories do not only say it could be different, but it was different. In his introduction to today's proceedings, Dr O'Donovan referenced Hannah Arendt: 'stories are the principal means by which to open up public space for active citizenship.' They can engender change in society. How might these stories affect how we think about the present and imagine the future? 'What kind of commitments do they inspire in us, and to whom? And how do we tell these stories to others?'

Professor Shot, in his presentation, echoed these questions: for transformative change in society, we need stories. But who tells them, and how? Professor Schot makes a spirited call to researchers to 'all become luddites' – but more successful luddites than those in the past. Perhaps to be a successful luddite means to reclaim the tools used against you, to define your own narratives and stories for posterity. When it comes to writing the stories of technology, we need new ways of telling the stories of the past. But we also have an obligation to the history that is being made in the present, to capture these stories in such a way that they may influence the kind of changes wanted and needed for social progress in the future.

The story offered by Professor Sutz from her research acts as a good example. An affordable LED lamp for new-born babies with jaundice was developed by a physicist in Uruguay, but only following a chance conversation with his father who was a doctor – otherwise, he claimed, he would never have heard about the problem. Such a story demonstrates how things can be otherwise, but also points to the changes to be made for such success stories to become the norm rather than the exception.

Conclusions: Questions for Social Sciences for Social Progress

You cannot separate technology from its social and economic embedding. Today, economic power is concentrated with a handful of corporations, and while opportunities generated by mass production are a source of hope, technology has played a part in the proliferation of harmful myths and their associated

injustices. How do social scientists justify their role in society? 'To understand with deepness,' argues Professor Sutz, and in turn allow societies and cultures to understand with the same deepness. Sutz and Stirling both reminded us that the study of science and innovation makes clear that progress is not singular, but multiple. Such studies remind and encourage us to think deeper and differently about how we perceive progress.

There is an overwhelming argument in the work of the IPSP that social science needs to have a more active role in determining the directions of innovation for social progress. But what are the processes required to do so? What is interesting for me in this discussion of storytelling in relation to this question is the possibility for new socio-technical imaginaries that might create the political will and public resolve to attain social progress. Unlike modernity's master narrative which serves to justify a limited and discriminatory notion of 'progress', collective socio-technical imaginaries 'project visions of what is good, desirable and worth attaining for a political community.'

If social progress requires new socio-technical imaginaries, established through people's capacity to participate in the process, where does this activity happen and how do we tell of its happening? Professor Sutz argued that universities must recognise their role in bringing about social transformation in future generations. Professor Moon argued that such stories are more readily revealed in the realm of everyday, public life, and that such work needs to be taken more seriously in social science.
In The Practice of Everyday Life, Michel De Certeau argued that ordinary people are not merely passive and submissive consumers, but active and able to manipulate the environments around them through everyday actions. For projects such as the IPSP, publishing research that can be accessed as widely as possible is clearly crucial, but ensuring that the research is then accessible to similarly large groups of people is an altogether different challenge. What are the most appropriate outputs for such research that aims to engage the imaginations of a broad public?

For the speakers in this panel, telling the stories of technology's role in social progress is a strategy for propelling and directing further progress. While some researchers advocate implementing storytelling in manuscripts (or even adapting manuscripts for entirely different outputs), others argue that such methods of research output undermine their target audience and compromise the reader's critical engagement. While I do not believe that storytelling necessarily bypasses critical engagement (rather, done well, I think it invites dialogue), I find it encouraging that such considerations about the role of storytelling in the social sciences are being made. I think for a broader stakeholder involvement in social policy, we need to advance and encourage these kinds of debates.

Watch the video of this IPSP event at the University of Sussex:
youtube.com/watch?v=qg8mu2-mJj4

More information

IPSP
ipsp.org

SPRU
sussex.ac.uk/SPRU

Technology's Stories
technologystories.org

UNIVERSITY OF SUSSEX | SPRU SCIENCE POLICY RESEARCH UNIT