13 JUNE 2025 09.00 - 11.00

Panel 44. Is Constructivism Dead?

Convenors:

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Keywords: constructivism, post-truth, science denialism

Constructivism within STS challenged the traditional understanding of science as disinterested pursuit of truth. The Sociology of Scientific Knowledge claimed that the same kinds of social, cultural, and political explanatory resources, as well as concerns and interests of different groups, should be applied to both 'true' and 'false' scientific claims. The next generation of STS studies moved to laboratories to observe how scientific objects and facts were constructed, approached society at large as a laboratory, and extended expertise beyond scientists and specialists. Scientific representations, in the hands of constructivists, turned out rich sites of social actions, instead of being accurate depictions of natural and social entities. Likewise, the construction of objectivity was closely scrutinized, the notion of objectivity being itself historicized.

Constructivism has become more generally accepted. Although the early interaction between STS constructivism and the philosophy of science was often antagonistic, numerous insights derived from STS constructivism, along with the empirical approach to examining scientific practices, were subsequently embraced by the practice-oriented philosophy of science. The discourses surrounding modeling, representation, and measurement, alongside the consideration of non- epistemic values in science and standpoint epistemologies, testify to certain constructivist inclinations. The recent endeavors to rehabilitate realism through perspectivalism and operational coherence emphasize scientific practice and pluralism in science.

In the meanwhile, the authority of science seems to have eroded. In the so-called post-truth situation, STS constructivism can be weaponized to undermine the credibility of science more radically than what constructivists intended. The boundary between a critical approach toward science and science denialism has blurred. Climate change denialism, vaccine hesitancy, and other kinds of science skepticism have found constructivist arguments apt to dismiss scientific consensus. Constructivist claims about the socially contingent nature of scientific knowledge can be co-opted by anti-science movements to argue for the equal validity of various kinds of knowledge claims, making science just one 'narrative' among many. And the internet is teeming with self-appointed experts.

At the same time, science is criticized from within for being a form of knowledge production rooted in Western, Eurocentric traditions. This critique highlights the ways in which science has frequently excluded non-Western modes of knowing and reinforced oppressive hierarchies by claiming objectivity and universality. Even if STS constructivism addresses questions of power and culture in science, its original contributions did not deal with the concerns about epistemic fairness brought up by postcolonial and decolonial critiques, as well as by trans* and queer perspectives.

This panel welcomes contributions that critically discuss and/or challenge the continued value of constructivism in analyzing science. Does the post-truth era, combined with other critiques of science, reveal the need to rethink or challenge STS constructivism? Should constructivism assume a new (public) role of defending scientific knowledge and integrity of science in view of disinformation and science denialism? How is constructivism supposed to accomplish this? Should STS de-emphasize its constructivist roots in favor of other theoretical and conceptual approaches, for instance those of philosophy of science?

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ID 634 - Constructivism as Post-Truth Remedy

Jaron Harambam, Universiteit van Amsterdam

Keywords: Post-truth, conspiracy theories, distrust, symmetry, citizen assemblies

Today's information landscape is characterised by multiple forms of (un)trustworthy knowledge, novel filtering technologies, and new gatekeepers upholding other values. According to some, we have entered the post-truth era, a time where truth, reason and objective facts are no longer influential in shaping public debates, while personal opinions, emotions and ideologies do.

Various societal and academic actors argue that untrustworthy information (disinformation, fake-news, conspiracy theories, etc) should be debunked by insisting on the truthfulness of real "facts" provided by established epistemic institutions. They strive to restore the authority of experts, and to "follow the science" in complex political decision-making. This modernist imperative is shared by many European nations when developing policies to deal with contested knowledge, forms the backbone of EU-sponsored fact-checking organisations and networks, and is deployed by legacy media and (until very recently) social media companies.

Even STS scholars recoiled in the wake of Trump's election victories, covid-denialism and other "irrationalities". They fear that constructivism has run out of steam now that all kinds of "bad people" use their language and conceptual tools, and ask themselves whether they need other weapons against the powerful? Some even think STS – and its radical constructivism – is to blame for the demise of scientific authority. Did our constructivist and symmetrical intellectual toolbox indeed pave the way for all kinds of authoritarian societal tendencies and truth decay more generally?

In this paper I critically assess such post-truth arguments and argue in favour of more not less constructivism, both in research and society. Drawing on years of ethnographic research experiences in the Dutch conspiracy milieu and on how disinformation is combatted, I explain why debunking conspiracy theories is not always possible (can scholars actually know the real truth?), generally not professional (is taking sides in truth wars what we should do?), and most importantly, not productive (providing more "correct" information won't work as knowledge acceptance is not just a cognitive / epistemic issue).

Instead of reinstalling the modernist legitimation narrative of science, I argue that both in research and in society we need more constructivism. If we are to understand the complex societal and technological dynamics through which hegemonic truths are challenged and epistemic institutions are distrusted, then we need symmetrical STS analyses of competing parties and arguments. If we want to avoid unwanted assumptions seeping into our research and regain trust from communities who have lost faith in us, then we need to keep our own political and epistemic preferences at bay. If we want to make our information societies more democratic, then we need political innovations that are both epistemologically stronger and sociologically more effective.

Building from research and experiments with epistemic democracy in the field of science and technology studies, I propose to have "deliberative citizen knowledge platforms", instead of elite expert groups alone, asses the quality of public information. Such societally representative bodies should enjoy more legitimacy and epistemic diversity to better deal with conspiracy theories and the broader societal conflicts over truth and knowledge they represent.

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ID 714 - Truth and the Partial Perspective

Siboné Oroza, Helsingin yliopisto

Keywords: Ethnography, intersectionality, partial perspective

For an ethnographically oriented music researcher informed by intersectionality like me, constructivism

- defined as people (including me) constructing (interpreting and producing) their realities in social interactions - is all but dead. In 2012-2013, for 13 months, I observed the musical performances of dance and vocal groups created by young women of Quechua descent known as cholitas in Bolivia. These groups took the country's popular music stages by storm in a time of a social revolution at the turn of the millennium and are popular to this day. I asked the artists about their careers and the meanings they attach to their performances. They responded with carefully constructed life-stories reflecting the perception that everything in this world is an individual bodily reality shaped by human and nonhuman forces. I, in turn, re-constructed and interpreted their stories in my writing. In terms of the framing of this panel, what is the truth-value of my research/storytelling?

To make sense of my empirical material, I put it into dialogue with a large body of knowledge constructed by others. An important cue came from Indigenous research protocols that value storytelling and accentuate the inter-relationship between method, ethics, and care. Another came from regarding the affinity of the artists' stories with notions of intersectionality put forth by Black and decolonial feminists, holding that socially constructed categories such as gender/sex, ethnicity, class, sexuality, and more interact in our lives producing different kinds of societal inequalities and unjust social relations. Yet another came from the Andean notion that musical performance interconnected with the nonhuman world has transformative power.

Determined to do research for Good, I listened to the resounding impacts of collective forces in the artists' performances, reflecting on my own positionality. Ever since critique of androcentric/Eurocentric stances in science intensified in feminist, decolonial and other academic fields in the late 1960s, there is no going back from the awareness that all forms of knowledge production, including the scientific kind, are inseparable from the person(s) doing it. If anti-science and post-truth movements have co-opted this principle, we, as researchers, should defend it even more strongly, dismantling the political allegiances, values, and economic interests behind anti-science ideologies and political liars. Being accountable for my partial perspective also means critically re-examining my research outcomes in shared conversations with the artists, not losing sight of the ethical and political implications of my work.

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ID 752 - Constructivism Is Dead, Long Live Constructivism!

Ilmari Hirvonen, Helsingin yliopisto
Ilkka Pättiniemi, Turun yliopisto
Rami Koskinen, Universität Wien

Keywords: constructivism, modal inferences in science, rhetorics, scientific practice, science denialism

Constructivism forms an integral part of the sociological study of science, as science is a social enterprise that also creates things. New theories, concepts, practices, and methods are indeed constructed, although their targets might not be. However, increasingly claims are made that constructivism is at least partly to blame for science skepticism and denialism and the birth of the "post-truth era."

We express doubt whether constructivism is to blame for these ills. However, we will criticize some of the constructivists' common rhetoric. We also highlight the crucial difference between whether constructivism is responsible for the post-truth predicament and whether it is valuable and important as a scientific research programme. Even if constructivism is guilty of the first – which we are skeptical about – it does not follow that science should not be studied from a constructivist perspective – or that philosophy of science cannot benefit from constructivism.

To illustrate the interplay of science, philosophy of science, and constructivist ideas, we consider a recent view on modal inferences in science. According to this view, modal inferences are made in two main ways: (1) through relativizing modal claims to some system (theory, model, etc.) and (2) through making manipulations to the object of study. This model shows how successful scientific modal inferences trade in on both objective and epistemic (indeed, often social) notions of possibility, making it a prima facie case

against the idea that constructivism is tied to anti-scientific sentiment.

Ultimately, it is an empirical question, to what extent constructivism is responsible for the growth of science denialism. Of course, some constructivist claims can be and undoubtedly have been, used to support denialism. However, most science denialists and disseminators of misinformation are probably not even familiar with constructivist studies. More likely, their criticism of science stems from elsewhere.

To a great extent, constructivism's problem is a PR problem caused by unclear and sloppy linguistic practices that its practitioners have socialised into, some of which may even be deliberately intended to provoke. For example, when constructivists write about "creating truths," this can be read in at least two ways: either the targets of the study are socially constructed artefacts or merely the theories of the targets. The second reading is almost trivial, whereas the first is considerably more questionable.

More than allegedly contributing to the rise of science denialism, the tragedy of constructivists' PR problem is that many scientists and philosophers of science have overlooked the important contribution of STS to our understanding of science. However, we hope to show that philosophy of science can accommodate constructivist insights constructively. Finally, constructivism, and STS in general, is a descriptive endeavour, not a normative one. Forming norms is closer to philosophy of science than sociology of science, regardless of who carries it out. There should be room for STS and philosophy of science; ideally, constructivists and philosophers should collaborate in studying science where possible.

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ID 775 - Constructivism in defence of science – a contradiction in terms?

Tarja Knuuttila, Universität Wien
Martina Merz, Universität Klagenfurt

Keywords: constructivism, STS, practice-oriented philosophy of science, post-truth, climate science

This talk is intended to serve as an introduction to the panel "Is constructivism dead?". It is motivated by one of the panel's key issues, which will serve as our guiding question: How can constructivism defend and support scientific knowledge and integrity of science in view of disinformation and science denialism?

We will begin by revisiting the recent debate in STS about whether, respectively to what extent, STS' constructivist tenets are prone to serve as tools to undermine the credibility of science. For example, this debate has played out in several articles in response to Sergio Sismondo's editorial "Post-truth?" in the journal Social Studies of Science (2017). We will pay attention to the fact that constructivism has never come in a single version and try to disentangle the various perspectives on constructivism (or associated terms, such as constructionism) underlying the different positions. In this context, we will also look at how constructivism has influenced practice-oriented philosophy of science, often without explicit notice.

To render the discussion more concrete, the remainder of the talk will focus on the case of climate change science. STS scholars and philosophers of science have turned climate change science into a study object since the 1990s. This rich body of literature has focused on the comprehensive climate models, their production and their use in science and policy, bringing to attention issues such as model-data relations, the epistemic status of modelling and simulation, uncertainties and challenges of assessment, appropriate modes of governance, possibility modelling of different climate scenarios, feminist perspectives on climate science, etc.

In our talk, we will consider selected recent texts from STS and philosophy of science on climate science, especially those arguing implicitly or explicitly in line with constructivist approaches. We aim to draw out the adopted conceptual perspectives and interpret them in view of the authors' (potential) implicit or explicit positioning regarding current public/policy debate. We will also investigate whether there is still an underlying division of labour between STS and practice-oriented philosophy of science approaches to climate science. While both are concerned with how science operates in practice, do they approach the matter differently, with philosophers focusing on epistemological issues and STS scholars primarily ad-

dressing science's public role? Regardless of how this question is answered, it appears that constructivist claims concerning the building and reliability of climate models on the one hand, and their societal and political roles on the other hand, pose different kinds of concerns about constructivism.

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ID 807 - Artificial Natural Landscapes: The Contingencies of "Ground Truth" Construction

Laura Savolainen, Helsingin yliopisto
Niccolo' Tempini, University of Exeter

Keywords: machine learning, ground truth, data work, constructivism

The relevance of the concept of truth has been debated within constructivist literature (see Woolgar, 1988). Nevertheless, the concept continues to resurface. In computer science literature, it has also acquired the prefix "ground". Ground truth refers to verified datasets used to train pattern recognition in a machine learner. Obtaining such datasets is widely recognised to need human input, except for in the rare cases where labeled data pre-exists. Laborious human labelling and verification plays a key role in how models are pre-trained, maintained, and fine-tuned. Data remains central to model performance, as evidenced by discussions about data quality, overfitting, and bias among machine learning (ML) practitioners.

In our presentation, we discuss practices of constructing ground truth datasets in ML data pipelines, based on 25 interviews with ML researchers and practitioners. Our research shows how ground truthing is shot through with judgment and negotiation, and ground truthing practices are highly heterogeneous. What artefact can act as a ground truth depends on a number of assumptions, linked to the way in which the interpretive or decision task to be automated is defined, whether it is already formalised and operational in the real world, whether a form of ground truthing practice already exists for the purpose of training human judgement.

Some tasks are perceived as more elusive, might lack an accurate answer, might be poorly understood in the original scientific domain, or might need to be broken down in sub-tasks to be captured in ground truth data. This often requires an artful response as to how a new kind of ground truth will be generated for the purpose. Collections of sub-tasks can be completed by crowd labourers and subsequently aggregated, with a number of transformations being performed: responses are assessed and aggregated, individual data workers' performance may be modelled, and different weights may be given to labels by different people. A whole set of judgement calls are faced by researchers who need to balance task design options to ensure enough data of good quality are generated. Researchers resort to informal judgements about whether the data 'look right' vs are 'off'. They govern data work by negotiating the value and importance of crowdsourced labellers' judgements.

Despite how contingent ground truthing can be, researchers show little hesitation, assuming the process is organised to generate reliable, usable data. We argue that ground truths should be viewed not as representations of the world, but as practical compromises for accuracy as defined within bounded contexts and problem definitions. Ground truths are not about reflecting reality, and more about defining a problem in a computable, measurable manner (see Muller et al., 2021; Kang, 2023). Ground truths are contextually defined in relation to resources (Orr and Crawford, 2024), goals, constraints and assumptions held by the development team, which brings a dimension of contingency to how problems are operationalised. The language of ground truthing thus amounts to a peculiar semiotic inversion of signifiers.