Whose truths? Whose facts? Cultures of evidence beyond and across academic disciplines

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Von

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Since the 1970s, evidence cultures beyond and across academic disciplines have gained broad societal relevance in production, use and validation of knowledge. Accompanied by new and widely accessible mediums of knowledge transfer, the diversification of knowledge producers has many implications for how knowledge is categorized and how claims of evidence are empirically approved. The reference to scientific practices as a reliable source of evidence remains no longer uncontested. Against this background, the interdisciplinary research group 2448 "Practicing Evidence – Evidencing Practice" hosted a conference discussing the significance of different epistemic cultures in de- and re-stabilizing evidence.

In the first panel, JUTTA HAIDER (Borås) demonstrated that our present discourses of truth and facts relate to source criticism that emerged as a method in the discipline of history since the 17th century. Today, Swedish students learn *källkritik* (source criticism) in school to understand how to question diverse sources of information. However, with the appearance of the *vaccinkrigarna* – an anti-vaccine campaign during the Corona pandemic – source criticism has been used by right-wing activists to counter facts and to establish alternative facts by raising doubts. This highlights

that source criticism, and with it the question of whose facts and whose truths, can be used for ambiguous strategies.

In chemistry from the 18th century onwards, a different kind of dynamics in the negotiations of evidence practices was at play. DANIEL FÜGER (Gießen) introduced "evidence" as an available body of facts, shaped by the interplay between the public sphere and the scientific community. By establishing novel boundaries between both, it enabled chemistry to become a science of historical, social, and technical progress for society. In the case of chemistry, Füger identified not so much competing evidence cultures, but rather a close interaction between scientists and the public such as experiments conducted in public. Consequently, the question came up, what features a public has to possess to enable a discourse of evidence.

Discourses of evidence also take place within mass media communication, as HELENA BILANDZIC, SUSANNE KINNEBROCK, and LISA GRESSER (Augsburg) demonstrated. They presented results from their quantitative content analysis of the use of different evidencing practices within science journalism on genomic research. First, they gave an overview over three common practices – from the presentation of data and methods via citing authorities to telling narratives – which science journalism uses to support scientific findings. The discussion then focused on the technique of citing authorities and medial attribution of authority as a highly effective heuristic to support scientific findings by emphasizing deference to its source and establishing trustworthiness.

Despite the wide availability of COVID-19 vaccines and the scientific consensus on their safety, a notable part of the adult population remains unvaccinated in the United States.

In this context, MARTHA KENNEY (San Francisco, CA) explored the role of anti-vaccine disinformation on social media in vaccine hesitancy. Her analysis focused on anti-vaccine content and memes. She showed not only how disinformation about COVID-19 vaccines and other preventive measures are disseminated but also how notions and structures of "white supremacy" and masculinity are reproduced, enabling specific identifications with the anti-vaccine messages.

Addressing the relationship between science and politics, OLENA STRELNYK (Munich) interrogated the (in)visibility of care work in Ukraine. In order to respond to the unequal distribution of care work, she stressed the importance of recognizing and making visible unpaid care and domestic work in scientific analysis and in policy-making. In this regard, she explored the availability of gender-sensitive data and evidence of care work. While more public attention has been paid to women's burden of care work during the COVID-19 pandemic, Strelnyk critically pointed to the lack of state-funded studies that include gender aspects and issues in their data collection and analysis.

MICHAEL REDER, ANA HONNACKER, and JULIAN PRUGGER (Munich) critically discussed evidence-based political practices. The COVID-19 crisis has been characterized by extensive political references to and usage of scientific knowledge and evidence. In this regard, the authors deprecated current practices as being based too much on quantification and paying inadequate attention to the complexity of social problems. As possible future transformations, they ultimately suggested understanding politics as a shared learning process, focusing on experience and reflexivity in the process of knowledge production. They also recommended drawing expertise

from pragmatism and postcolonialism to include more complexity in evidence-based political practices.

In the next panel on the co-construction of science and social order, HENK-JAN DEKKER (Eindhoven) presented results from his analysis of Dutch cycling activists from the 1970s. He shed light on cycling activists' recurring criticisms of policymakers: namely, the designing of plans from the perspective of car drivers, and the engineering tradition of quantitative traffic analysis. Tracing back the activities of this Dutch movement, the author pointed out how activists fought existing evidence-production routines and advocated for cooperative policymaking, including lay expertise deriving from subjective experiences of traffic participants.

SARAH EHLERS and HELMUTH TRISCHLER (Munich) dealt with different types of evidence production routines within the context of debates on pesticide use in the Global South during the 1970s and 1980s and discussed questions of generating and contesting knowledge inside and between different disciplines. By considering disciplines as styles of thinking and social units defining what counts as epistemologically relevant and "true," they outlined how the coexistence of scientific, activist, economic, and administrative cultures of evidence-making and evidence-use influenced historical debates on pesticide safety, and how claims related to evidence and knowledge could have been established and coproduced across different disciplines.

SASCHA DICKEL and MICHAEL KITZING (Mainz) and ANDREAS WENNINGER and KEVIN ALTMANN (Munich) pointed out how Citizen Science negotiates its boundaries in the public sphere. Boundary-work can become an evidence practice that is used to demark Citizen Science from other professional activities as well as from other sciences and scientific activities, which do not include the citizen as assistant in their research activities. Hence, Citizen Science illustrates a broader theme within the scientific fields of knowledge, where attempts are made to establish – via evidence practices – a right to exist as one discipline independent from others. It also becomes clear that academic boundaries can be floating; to enclose what is useful for their own positioning and to exclude what is not. In this context the question arises how much to define Citizen Science as a distinctive knowledge practice.

Focusing on institutions and institutionalizations, STEFAN ESSELBORN (Munich) addressed the field of risk research and assessment and outlined the attempt to establish a transdisciplinary faculty for *Sicherheitswissenschaft* (security science) – the first of its kind in German-language academia – at Wuppertal University between 1972 and 1994. Even though faculty founder Peter C. Compes' idea built on a supposed shared evidence culture (probabilistic risk calculation) and a common problem (technical safety), the transdisciplinary faculty failed to achieve adequate internal institutional and methodological coherence. Esselborn discussed this unsuccessful institutionalization attempt through the lens of (too) divergent disciplinary styles of thought, potential external demands from the political system, and institutional conservatism in German academia.

Using two case studies, STEPHEN WEBSTER (London) discussed the role of ethics committees in science and the question of how a discipline is taught. The case of Imperial College's science and engineering ethics committee illustrates how ethical concerns are assigned by specific scientific issues. While the scientific discipline decides whether something is an ethical matter or not, this is

called into question when ethical oversight in these bodies is exceeded by interdisciplinary collaborations. Since the 1980s the former positivism has been renounced by students, fostering the development of science, technology, and society departments, wherein the negotiation of ethics and interdisciplinarity has been given a new shape.

LUCAS BRUNET and RUTH MÜLLER (Munich) shared a first insight into their research on the organization of transnational and transdisciplinary research evaluation in the European Research Council (ERC). Aiming to understand the epistemic implications, they shed light on the reorganization of interdisciplinary panels, the composition of panel members, and tensions that came up between the disciplines. In this respect, they also analyzed how the specific expert status of the reviewers is negotiated and recognized in the practice of interdisciplinary evaluations.

The final panel discussed the making of scientific objects and concepts. ALFRED FREEBORN (Berlin) analyzed the "International Pilot Study of Schizophrenia" (1965–1973) and concluded that there were different diagnostic concepts of schizophrenia in anglophone and German-speaking expert communities in the postwar period. He pointed to the term "disease" seen as a malfunction of organs that can be cured, as opposed to "illness," considered to be a condition that affects the entire human being and has to be managed. According to Freeborn, the diagnosis, validation, and treatment of schizophrenia is rooted in the respective communities' assumptions of whether schizophrenia is more of a disease or an illness.

OLGA SPARSCHUH (Munich) elaborated on practices evaluating migrant competences at the German Zentralstelle für ausländisches Bildungswesen (national office for foreign education) during the 1990s. While the central office's task was to assess migrants' qualifications for future employability in Germany, Sparschuh pointed to the difference in the assessment of *Aussiedler* (ethnic German repatriates, having lived in Eastern Europe for generations) and Jewish contingent refugees. As only the repatriates were entitled to an equivalence test, it became clear that political requirements thwarted the original intentions of the office. Showing how a *Bewertungswesen* (system of evaluation) was established then, Sparschuh asked for the conditions of establishing a *Bewertungswissenschaft* (evaluation science).

MALLORY JAMES and RUTH MÜLLER (Munich) analyzed the strategies candidates use when applying for funding at the European Research Council (ERC). They explained how some academic disciplines have become more or less successful in securing funding over the years, and adopted Louis Althusser's concept of "interpellation," whereby applicants modify their strategies when seeking funding with the ERC. James and Müller showed candidates' coping practices after their projects had been rejected. They observed the instrument of ideology critique in the candidates' accounts of why their project got rejected and how the candidates challenge the notion of "scientific excellence."

The concluding discussion raised the question of what "culture" means in the context of creating evidence. Conference participants pointed out that the style of reasoning is related to a discipline itself and thus can vary substantially. One speaker added that "evidence" entails convincing each other on several levels and that "evidence" and "expertise" are always intermingled. This was particularly apparent when developing the idea of extreme and permanent source critique because: Whom would a critic refer to if no source is trustworthy anymore? Individuals would

have to come back to experts and authorities and their respective expertise. Additionally, subjective and formal evidence cultures engage, as was empirically shown, in a lot of boundary-work in order to set themselves apart from each other as disciplines. The plenum also pointed to a topic that was stressed implicitly in various talks: structural and epistemic violence that can occur when creating evidence, but also counter-movements to this kind of violence and the co-opting of "everyday experiential knowledge" that comes, for example, from activists.

In summary, "culture", "evidence" and "expertise" crystallized as key strands of research and will be discussed in the upcoming research group's workshop with a focus on evidence regimes.

Conference overview:

Welcome and Setting the Scene

Karin Zachmann, Ruth Müller, Mallory James and Olga Sparschuh (Technical University, Munich), Sascha Dickel (Johannes Gutenberg University, Mainz), Helena Bilandzic and Susanne Kinnebrock (University of Augsburg)

Panel 1: Recognition and Authority I

Jutta Haider (Borås University): From 17th Century Historiography to Children's TV, Civil Defense and Weaponised Irony: Source Critique in Sweden

Daniel Füger (Justus Liebig University, Gießen): The Legitimating Relationship between the Scientific Community and the Public Sphere

Helena Bilandzic, Susanne Kinnebrock, and Lisa Gresser (University of Augsburg): Scientific Authority as a Marker of Trustworthiness in Media Reports on Genomic Research

Panel 2: Recognition and Authority II

Martha Kenney (San Francisco State University, CA): Death by Disinformation: Facebook, COVID-19, and the Antivax Movement

Olena Strelnyk (Technical University, Munich): (In)visible Care Work: Data, Evidence, and COVID-19 Response Policies in Ukraine

Michael Reder, Ana Honnacker, and Julian Prugger (School of Philosophy, Munich): Evidence-Based Political Practices, their Limits and Possible Transformations

COVID-19 Poster Session: The De- and Restablization of Evidence in the Corona Crisis

Michael Schönwolff and Ruth Müller (Technical University, Munich): Solid Evidence? Evaluating the Reliability of Evidence in Biomedicine during the Corona Crisis

Angelika Laumer and Mariacarla Gadebusch Bondio (University of Bonn): Subjective Evidence: Experiential Knowledge of Long-COVID Patients and Clinicians

Karolin Kornehl and Sascha Dickel (Johannes Gutenberg University, Mainz): Contested Evidence? Evidence Conflicts in Social Media

Markus Schug, Helena Bilandzic, and Susanne Kinnebrock (University of Augsburg): Reported

Evidence? Media Coverage of Corona Research

Panel 3: Co-Construction of Science and Social Order

Henk-Jan Dekker (University of Technology, Eindhoven): Turning Tacit Knowledge into Tactics: Dutch Cycling Activism and the Participation of the Everyday Cyclist

Sarah Ehlers and Helmuth Trischler (Deutsches Museum, Munich): Pesticide Safety and its Evidence. Science, Politics and the Public in Debates over Hazardous Pesticides for the Global South

Sascha Dickel and Michael Kitzing (Johannes Gutenberg University, Mainz), Kevin Altmann and Andreas Wenninger (Bavarian Research Institute for Digital Transformation, Munich): The Science of Citizen Science: Updating Boundary-work in an Age of Public Participation

_Panel 4: Institutions and Institutionalization

Stefan Esselborn (Technical University, Munich): Risk as a Discipline? The Curious Case of "Sicherheitswissenschaft" at Wuppertal University (1972–1994)

Stephen Webster (Imperial College, London): Hope, Reticence and the Interdisciplinary Ambition

Lucas Brunet and Ruth Müller (Technical University, Munich): Who Governs European Social Science Research? A Study of a Transnational and Interdisciplinary Research Evaluation in the European Research Council

Panel 5: The Making of Scientific Objects and Concepts

Alfred Freeborn (Max Planck Institute for the History of Science, Berlin): Between Transcultural Disease and International Diagnostic Concept: "The International Pilot Study of Schizophrenia" (1965–1973) and the Postwar Culture of Diagnostic Validation

Olga Sparschuh (Technical University, Munich): A Culture of Evidence in the Making. Evaluation Practices of Migrant Competences at the Zentralstelle für ausländisches Bildungswesen during the 1990s

Mallory James and Ruth Müller (Technical University, Munich): Scientific "Excellence" between Applicant Strategies and Institutional Rationalities: An Ideology Critique

Final Discussion

Zitation

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