

Call for Abstracts: "Assessing the (de)construction of technological hypes"

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Guest editors of this TATuP Special topic

Jascha Bareis^a, Maximilian Roßmann^b, and Frédérique Bordignon^c

^aInstitute for Technology Assessment and Systems Analysis (ITAS), Karlsruhe Institute of Technology (KIT) & Humboldt Institute for Internet and Society (HIIG), Germany;

^bFaculty of Arts and Social Sciences (FASoS), Maastricht University (UM), Netherlands;

^cEcole des Ponts ParisTech & Laboratoire Interdisciplinaire Sciences Innovations Sociétés (LISIS) lab, France.

Submissions

- Send your abstract by email to redaktion@tatup.de by 03 February 2023;
- length of the abstract: max. 1.5 pages;
- please state full names, email addresses and institutional affiliations of all co-authors of the abstract;
- the editorial office will correspond with the author submitting the abstract.

Schedule

03 February 2023	Deadline for submitting your abstract.
February 2023	Decision on inviting authors to submit a full manuscript (28.000
	characters over the whole document including spaces).
June 2023	Deadline for submitting your full manuscript, followed by a
	double non-blind review process.
July 2023	Feedback from the reviewers, followed by authors' revisions.
September 2023	Feedback on revisions.
October 2023	End of revision period.
December 2023	Publication (print and online).

TATuP – Journal for Technology Assessment in Theory and Practice is peer reviewed and diamond open access, both online and in print. The journal sections with different article types cover the interdisciplinary field of technology assessment (TA). Its scope includes scientific research and practical as well as problem oriented findings from the interstices between technological innovation, social change and policy advice. Neighboring and overlapping fields of research are, inter alia, systems analysis, risk assessment, practical ethics, sustainability and innovation studies, science and technology studies or foresight.

TATuP aims at creating public outreach by addressing research findings and policy recommendations also to transdisciplinary stakeholders. The concise form of peer-reviewed articles as well as the journal's open access policy, web design, and print layout are fitted to this purpose.

This TATuP Special topic will collect research articles discussing 'hypes' and 'overpromising', extending from false claims to inappropriate exaggerations, whether intentional or not. The aim is to support a deeper understanding of hyping language and practices and its underlying dynamics and mechanisms. Hype shall be transformed from a buzzword to a reflected and applicable working concept for different fields and constellations of technology assessment (TA).

Background: More and more people write about real and potential consequences of technological innovation, usually with positive intentions (Joly 2013, Caulfield 2018, Alvial-Palavicino & Konrad 2019). In a similar vein, technology assessment (TA) and Science and Technology Studies (STS) are competing for funding and attention to address popular concerns, which contributes to what Vinsel (2021) and Brock (2019) recently called 'criti-hype,' 'ELSIfication' and 'wishful worries'. As a result, it is becoming increasingly difficult to do research on less appealing and less novel subjects like nuclear waste management or the housing scarcity, raise public awareness of them, and foster their academic and public debate *without exaggerating the certainty of facts in alarmist or sensational narratives*.

TA has developed a strong sense for the contexts, power, functions, and consequences of speculative and future-oriented communication, e.g., in reflecting the assessment of speculative technological innovations, like nano visions (Nordmann 2007, Grunwald 2010), Constructive Technology Assessment (Schot & Rip 1997, Konrad 2021), or in developing the approach of Vision Assessment (Grin & Grunwald 2000, Lösch et al. 2017, Grunwald 2020, Frey et al. 2022), However, the question of how to responsively analyze, entertain, and communicate uncertain scenarios in TA studies without fueling hype and alarmism remained unanswered. And it is made even more urgent, considering the digital transformation of mass media and promising potentials of digital methods.

What is at stake? Over-promotion is generative, and can create topicality, produce feeds, motivate research funding, fuel innovation, skyrocket or tank stocks, and give birth to startups, influencers, followerships of Tech Gurus, and other actors who know how to exploit the hype to their advantage (Rinaldi 2012, van Lente et. al 2013, McCray 2013, Hilgartner 2015, Dedehayir & Steinert 2016, Lösch et al. 2017, Birch 2017). On the other hand, hyping and downplaying implications of scientific and technological possibilities is known to lead to worrisome consequences, e.g., poor health decisions, misdirected financial resources, understudying of other pathways of scientific endeavor and, more generally, jeopardize trust in science (Bordignon et al. 2021, Löfstedt 2003, Intemann 2020, Vinkers et al. 2015). Versatile methods, concepts, and explanations have been developed (for an emerging overview, see our *peer*iodical on hype and over-promising¹).

On this background, this TATUP Special topic is to create and organize the opportunity to deconstruct and assess hyping on and through technology developments from an interdisciplinary TA perspective. As TATUP guest editors, we envision an opportunity to strengthen TA's links to methodological approaches and tools, for example (but not exclusively) from the research fields of Science Communication, Media Studies, Computational Social and Political Sciences, Digital Humanities, Scientometrics, Business Informatics, STS, Sociology or Anthropology, History of Technology, Linguistics, and Philosophy. From our point of view as guest editors, TA needs to *critically* monitor trends and develop analytical tools to differentiate between lofty tech talk or a mature market entry that calls for policy assessment and (de-)regulation. TA needs to navigate both, understating and overstating uncertainty, and under- and over-communicating knowledge. And with a look at one's own position in the discourse, there is the question of how stakeholders, researchers, and science communicators should deal with hype and overpromising - what linguistic and strategic options are appropriate to foster a democratic discourse about socially transformative technology?

For this special issue we welcome contributions that focus or combine questions from variety of perspectives:

a) Definition sharpening

- What features of language, context, discursive prominence, over-promotion of evidence, or consequences constitute hype?
- What actors, institutions, systemic relationships, and general trends are accountable or foster hype generation? What speeds it up, and what makes it vanish? What role does R&I policy and policy discourses play in contributing to hypes?

b) Empirical approaches and case studies

- When, where, and in what period does hype happen? What sites, media, and data suit the empirical study of hype? Who is affected?
- How can linguistic, narratological, ethnographic, or discourse analytical approaches inform the study of hype?
- How can scientometrics and digital methods such as horizon scanning, trend and network analysis, text mining, knowledge-graphs, and machine learning complement or supplement these approaches?
- Looking back, what can be learned from historizing the Technology Assessment of what later became tech hype (e.g., Nano, Space Travel, AI, Industry 4.0, Virtual

¹ <u>https://peeriodicals.com/peeriodicals/hype-and-over-promising-in-science-and-technology</u>

Reality...)? What motivated decisions and collaborations? Why have indicators, voices, and dynamics been over- or understated?

• How did or does TA's demand to achieve societal impact inform or mislead TA's science communication? What are and how does TA reach its communication purposes?

c) Pragmatic and normative positions

- How does the relationship of TA to its clients and audiences affect or foster hype and alarmism? What kind of discourses and actors are highlighted or silenced?
- How should technology assessment and science communication position against hypes & alarmism? Which role does debunking hypes play in scientific policy advice and what role should it play?
- Which handling of hypes and over-promising is recommended from a theoretical point of view and from practical experience? What formats have been tested and evaluated (e.g., debunking, myth-busting, fact-checking, training in science and technology communication, journalism, or artistic interventions)?
- What are the cultural underpinnings of technology hypes? Are different approaches to innovation evident in the global South?

References

Alvial-Palavicino, C. & Kornelia K. (2019): The Rise of Graphene Expectations: Anticipatory Practices in Emergent Nanotechnologies. Futures, 109:192–202. https://doi.org/10.1016/j.futures.2018.10.008.

Birch, K. (2017). Rethinking Value in the Bio-economy: Finance, Assetization, and the Management of Value. Science, Technology, & Human Values, 42(3), 460–490. https://doi.org/10.1177/0162243916661633

Bordignon, F, Ermakova L, & Noel M. (2021). Over-promotion and Caution in Abstracts of Preprints during the COVID -19 Crisis. Learned Publishing, 34(4). 622-636. https://doi.org/10.1002/leap.1411.

Brock, David (2019). Our Censors, Ourselves: Commercial Content Moderation. Los Angeles Review of Books.

Caulfield, T. (2018). Spinning the Genome: Why Science Hype Matters. Perspectives in Biology and Medicine, 61(4), 560–571. https://doi.org/10.1353/pbm.2018.0065

Dedehayir, O., & Steinert, M. (2016). The hype cycle model: A review and future directions. Technological Forecasting and Social Change, 108, 28–41. https://doi.org/10.1016/j.techfore.2016.04.005

Frey, P., Dobroć, P., Hausstein, A., Heil, R., Lösch, A., & Roßmann, M. (Eds.). (2022). Vision Assessment: Theoretische Reflexionen zur Erforschung soziotechnischer Zukünfte. KIT Scientific Publishing. https://publikationen.bibliothek.kit.edu/1000142150 Grin, J., & Grunwald, A. (2000). Vision Assessment: Shaping Technology in 21st Century Society: Towards a Repertoire for Technology Assessment. Springer Berlin Heidelberg.

Grunwald, A. (2010). From Speculative Nanoethics to Explorative Philosophy of Nanotechnology. NanoEthics, 4(2), 91–101. https://doi.org/10.1007/s11569-010-0088-5

Grunwald, A. (2020). The objects of technology assessment. Hermeneutic extension of consequentialist reasoning. Journal of Responsible Innovation, 7(1), 96–112. https://doi.org/10.1080/23299460.2019.1647086

Hilgartner, S. (2015). Capturing the Imaginary: Vanguards, visions and the synthetic biology revolution. In S. Hilgartner, C. A. Miller, & R. Hagendijk (Eds.), Science and democracy (pp. 33–55). Routledge.

Intemann, K. (2020). Understanding the Problem of "Hype": Exaggeration, Values, and Trust in Science. Canadian Journal of Philosophy, 1–16. https://doi.org/10.1017/can.2020.45

Joly, P-B. (2013). On the Economics of Techno-Scientific Promises. In Débordements : Mélanges Offerts à Michel Callon, Sciences sociales, eds. M. Akrich, Y. Barthe, F. Muniesa, & P. Mustar. Paris: Presses des Mines, 203–21.

Konrad, K. (2021). 3.2 Constructive Technology Assessment – TA als konstruktives Element im Innovationsprozess. In S. Böschen, A. Grunwald, B.-J. Krings, & C. Rösch (Eds.), Technikfolgenabschätzung (pp. 209–219). Nomos Verlagsgesellschaft mbH & Co. KG. https://doi.org/10.5771/9783748901990-209

Lewandowsky, S., Oreskes, N., Risbey, J. S., Newell, B. R., & Smithson, M. (2015). Seepage: Climate change denial and its effect on the scientific community. Global Environmental Change, 33, 1–13. https://doi.org/10.1016/j.gloenvcha.2015.02.013

Löfstedt, R. E. (2003). Science Communication and the Swedish Acrylamide "Alarm." Journal of Health Communication, 8(5), 407–432. https://doi.org/10.1080/713852123

Lösch, A., Heil, R., & Schneider, C. (2017). Responsibilization through visions. Journal of Responsible Innovation, 4(2), 138–156. https://doi.org/10.1080/23299460.2017.1360717

McCray, P. (2013). The visioneers: How a group of elite scientists pursued space colonies, nanotechnologies, and a limitless future. Princeton University Press. http://proquest.tech.safaribooksonline.de/9781400844685

Nordmann, A. (2007). If and Then: A Critique of Speculative NanoEthics. NanoEthics, 1(1), 31–46. https://doi.org/10.1007/s11569-007-0007-6

Rinaldi, A. (2012). To hype, or not to(o) hype: Communication of science is often tarnished by sensationalization, for which both scientists and the media are responsible. EMBO Reports, 13(4), 303–307. https://doi.org/10.1038/embor.2012.39

Schot, J., & Rip, A. (1997). The past and future of constructive technology assessment. Technological Forecasting and Social Change, 54(2–3), 251–268. https://doi.org/10.1016/S0040-1625(96)00180-1 van Lente, H., Spitters, C., & Peine, A. (2013). Comparing technological hype cycles: Towards a theory. Technological Forecasting and Social Change, 80(8), 1615–1628. https://doi.org/10.1016/j.techfore.2012.12.004

Vinkers, C. H., Tijdink, J. K., & Otte, W. M. (2015). Use of positive and negative words in scientific PubMed abstracts between 1974 and 2014: Retrospective analysis. BMJ, h6467. https://doi.org/10.1136/bmj.h6467

Vinsel, L. (2021). You're Doing It Wrong: Notes on Criticism and Technology Hype. Medium. https://sts-news.medium.com/youre-doing-it-wrong-notes-on-criticism-and-technology-hype-18b08b4307e5 (2022-11-22)