Search for social change. How to rethink and rebuild digital futures with European search engines/ infrastructures devoted to the public good

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Track #6: Was treibt, was reguliert die Innovation

Google has a market share of 92,99% in Europe, which is more than in the United States. It may be described as colonizing Europe (and other parts of the world) from its US-American home base. In the words of Andrew Barry (2001, 2006), it may be seen as establishing "technological zones" transgressing national boundaries, political regimes, and rules and regulations (Mager 2018). This technological reordering of topology and space goes hand in hand with processes of reordering social and political life, as captured by the term 'co-production´ (Jasanoff 2004, 2005). Companies like Google, however, not only develop digital tools and services and hence crucially shape our digital practices and modes of governance, but increasingly also the way we imagine digital future as such. "In this process of negotiating the future, it is often not state actors that act as primary agents of powerful imaginaries, as originally held in the concept of "sociotechnical imaginaries" (Jasanoff and Kim 2009), but corporate players" (Mager and Katzenbach 2021). This shows that big tech companies may indeed be seen as colonizing the world with their digital technologies, practices, and imaginaries.

Over the past years, the European Union has started to act up with legal frameworks and court cases to (re)gain control over Google, and other big tech companies, and their business and data practices, as well as strategies of "Blitzscaling", a "shock-and-wave tactic" aimed at social disruption that strives to "achieve massive scale at incredible speed" (Hofmann and Yeh 2018, cited in Pfotenhauer et al. 2021) But what about alternatives? What about European search engines growing at the margins of big search? What visions, values, and "counter-imaginaries" (Kazansky and Milan 2021) are driving these digital technologies? How do their developers try to (re)build search infrastructures devoted to the public good? What challenges arise and what compromises have to be made to be/come sustainable? And how do "European values" (Mager 2017) play into these software practices? Analyzing counter-imaginaries that are driving small search engines enables us to "make apparent how civil society seeks to respond to the ever-complex technological change and the risks it conceals." (Kazansky and Milan 2021) It allows us to understand how hegemonic actors like Google can be counter-acted, but also how strategic alliances with those have to be made to become sustainable in the long-run. These balancing acts will be analyzed in the context of in-depths case studies of three alternative search projects that I studied over the past five years; all based in Europe: the privacy-friendly search engine StartPage[1], the open source search engine YaCy[2], and its sister project SUSI.AI[3], and the initiative Open Web Index[4] (and the Open Search Foundation that grew out of it[5]) both trying to develop an independent index of the web open to the public.

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[1] https://www.startpage.com/ (accessed 24.2.2022)
[2] https://yacy.net/ (accessed 24.2.2022)
[3] https://dev.susi.ai/ (accessed 24.2.2022)
[4] https://openwebindex.eu/ (accessed 24.2.2022)
[5] https://opensearchfoundation.org/en/open-search-foundation-home/ (accessed 24.2.2022)

Empirically, the analysis draws on a rich repertoire of 40 qualitative interviews, participatory observations at various conferences (e.g. Open Search Symposium at CERN) and open tech summits (Chaos Computer Club (CCC) events in Frankfurt and Berlin, FOSSASIA in Singapore), online materials, and multiple joint workshops with the three developer teams (the last one as part of the Ars Electronica Festival in Linz/ Austria). The materials were analyzed with the help of the qualitative text analysis software MAXQDA[6] using a coding scheme with various categories and sub-categories, that was developed both top-down (starting from the research questions) and bottom-up (emerging from the empirical materials). The overall research approach followed the Grounded Theory by Glaser and Strauss (1968) including the method of theoretical sampling, which enables the researcher to select interviewees one after another and develop a theory that is grounded in data. Theoretically, the analysis works with analytical concepts from science and technology studies (STS), critical data studies, and values by design, which will enable me to conceptualize how social justice can be embedded in search engines and infrastructures. In the analysis, a particular focus will be put on the European context, where fundamental rights – privacy and data protection most particularly – are strongly upheld in EU policy rhetoric and governance (Mager 2017), but tend to be much weaker in the development of digital tools and services. This will show how digital technologies/ infrastructures and notions of Europe are co-produced in software practices and "infrastructural complexity" (Star and Ruhleder 1996). Accordingly, I will finally discuss what cultural and political framework conditions, e.g. funding structures, could help to let these projects grow out of their niches, while questioning whether the rhetoric of scale itself is also partly shaped by hegemonic actors, discourses, and practices of "moving fast and breaking things".

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[6] https://www.maxqda.com/ (accessed 24.2.2022)