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Items to a Research Agenda for Geopolitical Issues in HCI

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ABSTRACT

The HCI field lacks a systematic research agenda to address the planetary level of HCI issues associated with geopolitical conflicts. This paper proposes such a research agenda. It introduces and motivates geopolitical HCI as a research issue, and then analyses three possible topics and their related subtopics for future research. In the conclusion these are presented in a table overview that allows for easy future adding to the dimensions and content of the agenda.

Keywords

Geopolitical HCI, local HCI, planetary interaction design, HCI economy.

INTRODUCTION

In a sense, policy is the endgame of HCI, the ideal state of society, the better life for which that socio-technical design aims to design IT. Since the beginning of HCI, discussions of democracy have been around (Bødker et al., 2000). Socio-technical and participatory system development approaches have shaped and continue to shape HCI (Bjørn-Andersen & Clemmensen, 2017). It may even be fair to say that the key notion of usability aims to support the citizens of a democratic society. Obviously, exactly how HCI should do this remains open for geopolitical discussions. HCI has several roots deep in military needs from the world wars of the 20th century (Shackel, 1997). It was also born out of the socio-technical traditions with their emancipatory ambitions to create conditions for human workers, managers, etc. that facilitate the realization of user needs and potential (Hirschheim & Klein, 1994). How to reconcile such diverse ideas as military power and emancipatory ambitions within geopolitical HCI?

Acknowledging that the meaning of emancipatory HCI depends on our ideas about the ideal society, models of democracy and participation become important. Nelimarkka (2019) did a review of studies of HCI and policy. They started by recapping basic models of democracy found in the literature. Their models of democracy included the deliberative democracy, which is a system of governance that uses arguments in discussions until consensus is reached (Denmark may be an example); the Marxist system of governance that sees decision-making on policy as related to the economic system (China may be an example); and the cosmopolitan democracy system of governance that highlights citizens', no matter their geographical locations, rights to political

participation in global affairs (UN may be an example). For HCI the government system in its wider societal context is thus both a context for design and the ultimate end-goal of the design activities. In blunt words, HCI is both shaped by and may contribute to the design of Marxist, deliberate, and cosmopolitan systems of governance. Policy makers may therefore benefit from knowing about and considering HCI when they study and perform "democracy".

The notion of 'geopolitical' in HCI seemingly invites to think about different political-geographical phenomena. It has so far mostly been mentioned from a USA perspective as Chinese-American tensions (Avle & Lindtner, 2016), barriers (Baumer et al., 2014), peripheral (Adamu, 2020), on the fly (Jenkins, 2017), or as a question about UN development goal and HCI for the future (Thomas et al., 2017). However, it is necessary to think about HCI policy issues more globally (Lazar et al., 2016).

Though most of HCI research and practice aims at individuals (not collectives/ teamwork), HCI takes place within and has implications for global issues such as epidemics and climate crisis and working conditions on the planetary level. This invites to think big and beyond HCI and societal issues (Lazar et al., 2016) to instead go to the planetary level. HCI has the potential to facilitate or hinder UN development goals such as sustainable behavior and decent work. This should be seen in the context of geopolitical issues that shape what HCI is and may become (Linxen et al., 2021; Nocera et al., 2021).

WHAT COUNT AS GEOPOLITICAL ISSUES IN HCI?

We suggest a research agenda with three topics of research into geopolitical issues in HCI: (1) What are centers of HCI research around the globe? (2) Do we need new HCI methods for doing planetary-level interaction design, and (3) How does HCI organize itself geopolitically?

What if any are the centers of HCI research?

Local HCI may differ and there may be no center of HCI. Today however, even critical HCI researchers believe that there should be a center of HCI research, it should just be shifted: "If we were to change our stories of what is desirable, could narratives that reject the neoliberal story of progress move to the center of the field of interaction design?" (Nathan & Parvin, 2019). One example of that is the attempt to center HCI on the least empowered, partly by recognizing that the HCI researcher and practitioners are situated within the socio-technical meta-contexts of

society, scholarship, research, design inquiry and practice (Williams et al., 2021). There is perhaps a need to deconstruct the idea that there is a global HCI science with a shared approach and identity. Reasons for deconstructing include that HCI topics are local, languages of HCI publication are diverse, and HCI funding is tied to national economies (and thus reflects geopolitical conflicts).

HCI topics are local due to the local nature (e.g., Mexican HCI students may come up with a device that allows people in the desert to see the local dangerous spider in the sand), industry (e.g., India software industry is doing a lot of outsourced work for other countries, in Denmark nearly all companies are small, and need HCI research directed to their needs), politics (e.g., Iran music playing practices is shaped by US policies towards Iran), disasters and wars (e.g., HCI and refugees), work culture (e.g., work hours, work-home division and HCI), art and aesthetics (e.g., what count as beautiful interfaces is local), and more.

HCI languages of publication are diverse and local. While HCI research excellence all over the world is rigidly linked to English language publication (Lazar et al., 2016), this is a relatively new situation (e.g., much good HCI research is published only in Chinese, German, Russian, and French). This situation can be understandable and silly at the same time, as when Chinese researchers are required to publish only in journals that are indexed in an American company's (Thompson, Web of Science) index. It is also a problematic situation, partly because it favors native English-speaking researchers a lot, but more importantly because language reflects cultural values, cognition, etc. In particular in humanistic and social science HCI research the regional styles of HCI are important, see e.g., (Clemmensen, 2010).

HCI funding is tied to national economies (and thus reflects geopolitical conflicts). Government funding for HCI is supposed to support the (ideal) society that its' citizens are living in. Very little systematic knowledge has been published about funding for HCI research that can shed light on this issue. Lazar et al. (2016) found that HCI research is funded on the periphery or between other lines of research, such as a peripheral part of software engineering research or between technical and social science programs, or it is considered a (weak) late-stage societal impact type of research. More recently, the research program for EU has taken up the key vocabulary of 'human-centered' as the term occurs many times in a large part of the calls in the digital clusters of the program (see the EU commission's website for the Horizon Europe program). However, a closer analysis of the EU research program will reveal that the concepts or methods from HCI are mostly not there (yet) to follow up on the human-centeredness. And how much HCI funding comes from US and Chinese military and space research?

Do we need novel HCI methodologies for planetary interaction design?

HCI needs novel planetary interaction design (PID) methodologies. HCI needs to engage systematically with thinking through how to scale up HCI design approaches to support the business of interaction design for and with the planet that we live on and the planets that we may want to live on.

This may require us to think about HCI and 'deep time' of planets, and for example become sensitive towards designing on multiple timescales, develop post-humanistic collaborations with other species, and avoid exploiting natural resources in our HCI designs (Rahm-Skågeby & Rahm, 2021). Current socio-technical HCI design approaches such as activity theory (Clemmensen et al., 2016) or action design research (Sein et al., 2011) may be geopolitically naïve and fixed in regional thinking and current societal needs, and with little focus on the deep time (long-term, beyond generations, geological, etc.) on a planetary scale. HCI designs expressed in phone apps and social media sites are nearly global in their diffusion, but do not sufficiently take co-design and ethical value exchange with the wider environment into account. To scale up such approaches and designs, novel PID HCI methodologies must be developed. PID methodologies should help HCI researchers and practitioners and policy-makers to design for reconciling the discernible individual human creator with manufacturing processes distributed across planetary brands, designing teams, and production systems to (re-)create a circular economy (Kashima, 2020).

How does HCI organize itself geopolitically?

HCI should support and be supported by a diversity in HCI communities. The dominant conception of the USA hosted ACM CHI conference as the center of HCI research may be dangerous for the world, even when the organization is spreading around the world. As a field, HCI could be stronger with diversity in centers of HCI research.

Democratic mechanisms should function in HCI communities. However, in which ways should HCI itself be democratic? With national representatives like IFIP HCI? Or with regional representatives like AIS HCI? Or with global representatives like CHI? For example, participating in the election to CHI requires paid individual membership, but Danish universities have already paid for the researchers access to the digital library, meaning that Danish taxpayers are required to pay twice to ensure that Danish researchers can vote for CHI elections.

A transparent economy of HCI communities, conferences, and journals is a must. The money flows in HCI are problematic. Not that it is not fine that the international HCI community share resources and move around to distribute knowledge. The problem is that profit and power take priority, as the discussions of international publishers' profits indicate, or when individuals within HCI

communities become gatekeepers with funds enough to shape careers of researchers coming from poorer countries.

DISCUSSION AND CONCLUSION

We have proposed a research agenda for geopolitical HCI with three topics and sub-topics. These are listed in Table 1. They are notes to a research agenda for geopolitical issues in HCI. Future research may add to these.

1. Centers of HCI research	HCI topics are local
	Languages of HCI publication are diverse
	HCI funding is tied to national economies
2. HCI methods for doing planetary-level interaction design	Implications of deep time perspectives for HCI
	Focus on co-design and ethical value exchange
3. HCI communities' geopolitical organisation	Support a diversity in HCI communities
	Democratic mechanisms in practice in HCI communities
	Transparent economy of HCI communities and conferences and journals

Table 1. Three topics in a geopolitical HCI research agenda.

REFERENCES

- Adamu, M. S. (2020). Adopting an African Standpoint in HCI4D: A Provocation. *Extended Abstracts of CHI '20*, 1–8.
- Avle, S., & Lindtner, S. (2016). Design (ing)'Here'and'There' Tech Entrepreneurs, Global Markets, and Reflexivity in Design Processes. *Proceedings of CHI '16*, 2233–2245.
- Baumer, E. P. S., Ames, M. G., Brubaker, J. R., Burrell, J., & Dourish, P. (2014). Refusing, limiting, departing: why we should study technology non-use. In *CHI'14 Extended Abstracts on Human Factors in Computing Systems* (pp. 65–68).
- Bjørn-Andersen, N., & Clemmensen, T. (2017). The shaping of the Scandinavian Socio-Technical IS research tradition: Confessions of an accomplice. *Scandinavian Journal of Information Systems*, 29(1).
- Bødker, S., Ehn, P., Sjögren, D., & Sundblad, Y. (2000). Co-operative Design—perspectives on 20 years with 'the Scandinavian IT Design Model.' *Proceedings of NordiCHI, 2000*, 22–24.
- Clemmensen, T. (2010). Regional styles of human-computer interaction. *Proceedings of the 3rd ACM International Conference on Intercultural Collaboration, ICIC '10*, 219–222. <https://doi.org/10.1145/1841853.1841891>
- Clemmensen, T., Kaptelinin, V., & Nardi, B. (2016). Making HCI theory work: an analysis of the use of activity theory in HCI research. *Behaviour & Information Technology*, 35(8), 608–627. <https://doi.org/10.1080/0144929X.2016.1175507>
- Hirschheim, R., & Klein, H. K. (1994). Realizing emancipatory principles in information systems development: the case for ETHICS. *MIS Quarterly*, 83–109.
- Jenkins, T. (2017). Living apart, together: Cohousing as a site for ICT design. *Proceedings of Designing Interactive Systems (DIS2017)*, 1039–1051.
- Kashima, Y. (2020). Cultural dynamics for sustainability: How can humanity craft cultures of sustainability? *Current Directions in Psychological Science*, 0963721420949516.
- Lazar, J., Abascal, J., Barbosa, S., Barksdale, J., Friedman, B., Grossklags, J., Gulliksen, J., Johnson, J., McEwan, T., & Martínez-Normand, L. (2016). *Human-computer interaction and international public policymaking: a framework for understanding and taking future actions*. now publishers. <https://eprints.mdx.ac.uk/20131/1/ment-action-plan-2011-2015>
- Linxen, S., Sturm, C., Brühlmann, F., Cassau, V., Opwis, K., & Reinecke, K. (2021). How WEIRD is CHI? *CHI '21*, 1–14. <https://doi.org/10.1145/3411764.3445488>
- Nathan, L. P., & Parvin, N. (2019). A story of paradise: interactive, digitally enhanced, and radioactive. *Interactions*, 27(1), 74–76.
- Nelimarkka, M. (2019). A Review of Research on Participation in Democratic Decision-Making Presented at SIGCHI Conferences. Toward an Improved Trading Zone Between Political Science and HCI. *Proceedings of the ACM on Human-Computer Interaction*, 3(CSCW), 1–29.
- Nocera, J. A., Clemmensen, T., Joshi, A., Liu, Z., Biljon, J. van, Qin, X., Gasparini, I., & Parra-Agudelo, L. (2021). Geopolitical issues in human computer interaction. *IFIP Conference on Human-Computer Interaction*, 536–541.
- Rahm-Skågeby, J., & Rahm, L. (2021). HCI and Deep Time: Towards Deep Time Design Thinking. *Human-Computer Interaction*. <https://doi.org/10.1080/07370024.2021.1902328>
- Sein, Henfridsson, Pura, Rossi, & Lindgren. (2011). Action Design Research. *MIS Quarterly*. <https://doi.org/10.2307/23043488>
- Shackel, B. (1997). Human-computer interaction—Whence and whither? *Journal of the American Society for Information Science*, 48(11), 970–986.
- Thomas, V., Remy, C., Hazas, M., & Bates, O. (2017). HCI and environmental public policy: Opportunities for engagement. *CHI '17*, 6986–6992.
- Williams, R. M., Ringland, K., Gibson, A., Mandala, M., Maibaum, A., & Guerreiro, T. (2021). Articulations toward a Crip HCI. *Interactions*, 28(3), 28–37. <https://doi.org/10.1145/3458453>