

## The Importance of Cultural Learning Processes for the Study of Technology

Maja Hojer Bruun

Review of *An Anthropology of Learning: On Nested Frictions in Cultural Ecologies*, by Cathrine Hasse (Dordrecht: Springer, 2015). 320 pp. ISBN: 978-94-017-9605-7

In *An Anthropology of Learning*, Cathrine Hasse refers us to Don Ihde's insight that the history of science is full of examples that show how scientific apparatuses are created and developed in engagements that unites researcher and instrument. The scientific apparatus that Hasse describes in her book is, however, rarely described as such: the engaged anthropologist conducting fieldwork. Since, like Hasse herself, more and more researchers in science and technology studies base their work fully or partly in ethnography, her book makes a timely contribution in rendering a thorough treatment of the learning processes that constitute the methodology of participant observation.

Anthropologists largely agree that fieldwork is best learnt by doing it. That is true, both because no two fieldworks are the same and no two anthropologists are the same. Anthropology is a craft that takes practice, and it has no standardized procedures. For this reason, anthropologists have resisted writing recipe methods textbooks, and without exception they base their methodological writings in concrete ethnographic examples. This is also the case for Hasse, who relies on her own fieldwork experiences from a university physics department, a Danish nursing home using social robots, a Sardinian village, and other places. Yet, Hasse also uses Karen Barad's image of the researcher as a material-discursive producing apparatus engaged in intra-actions to specify the somewhat mystifying ways that anthropologists speak about their experiences as their own primary research tools. The ethnographer conducting fieldwork is, just like other newcomers, a moving, flexible, embodied apparatus who becomes culturally formed and learns how matter matters in other people's practiced places.

Thus, Hasse draws on Barad's vocabulary of agential cuts, intra-actions, and relata-within-phenomena to explain how anthropologists simultaneously interact with and intervene in the human and material worlds they study and analyze. To escape the presentism inherent in Barad's apparatuses Hasse also draws on other resources. First of all, she describes participant observations as a cultural learning process as theorized by Lev Vygotsky and others in cultural-historical activity theory. Hasse uses new feminist materialism to expand Vygotsky's and Engeström's notions of mediation that conceive of artifacts as emerging in specific activities and relations in order to become carriers of culture and meaning. Post-phenomenology helps Hasse to emphasize that learning processes are embodied and that ethnographers become embodied with cultural ecologies as they stabilize.

Over the chapters of the book, Hasse distinguishes between four different processes of cultural learning: (1) We learn from social designations where we observe what others do and don't do or where others point out cultural markers for us. Cultural markers are collective anchors of meaning, context, and communication that fieldworkers not only learn to know but also care about, e.g., when to wear certain clothes. We also learn (2) from engaging in practical activities, (3) through surprising comparisons—or 'culture contrasts'—and (4) we learn scalarly. With the concept 'scalar learning' Hasse addresses the question how individual experiences are reconciled with shared cultural wholes: they are reconciled by engaging in institutionalized everyday practices in different kinds of organizations, which, according to cultural-historical activity theory, can be homes, workplaces, schools or other institutionalized relationships. Such organizational cultures are as much held together by conflicts and exclusions as by harmony. When newcomers learn collective cultural codes and norms they do so through engaging, or nesting, in entanglements, or frictions, of human bodies, physical places and collectively shared meanings, hence the book's subtitle "On Nested Frictions in Cultural Ecologies." This is what Hasse means by frictions, ethnographic fieldwork thus consists of frictioned encounters in other people's practiced places that the ethnographer engages in.

Importantly, Hasse introduces the distinction between the empirical field that the anthropologist immerses herself in during fieldwork and the analytical field, that is, the theories, analytical concepts, and other cultural resources that are used to make sense of the empirical field and explain it to others in different disciplines and analytical fields. The distinction between these two fields is in itself an analytical agential cut, and one that is fundamental to Hasse's understanding of cultural learning processes and the anthropological endeavor. Hasse takes the stance

of critical realism: there *is* a social world independent of our knowledge of it and ethnographers can learn about it through participant observation. Anthropologists are not concerned with the world as it is in itself, but with human access to the world, and the ethnographer's access must always be taken into account, so in this sense the de-centered human is re-centered. Anthropologists are always situated in both an analytical and an empirical field and it is the movement between them that the creativity and power of anthropology. In the analytical field of anthropology it is accepted to explore the analytical potential of many different theoretical perspectives to understand and explain the empirical field—and this is what Hasse does with her diffracted reading of anthropological theory, feminist materialism, postphenomenology and cultural-historical activity theory in order to develop a new vocabulary for capturing not only anthropological learning processes but also for offering new imaginaries of human-material entanglements in a posthuman technological world.

Hasse's innovative approach to cultural learning processes lends itself to working with many of the challenges that we face in researching technology in a globalized world where people, artifacts, words, and actions travel freely and where the Anthropocene confronts us with whole new ways to think about culture and agency. From the perspective of cultural learning processes, technology is a cultural force that makes new cultural differences emerge and that make us imagine and enact new human-material worlds. Hasse explores some fascinating examples of this, e.g., how material cultural resources shape the collective consciousness and horizons of future development among physicists working with the Standard Model and how new technological artifacts such as the Japanese robot harp seal Paro move between cultural spaces and changed the way the staff in a Danish nursing home perceived their work and themselves. The book, therefore, is of interest both for scholars of technology who are concerned with the scientific apparatus of anthropology and ethnography and for those who want to include human culture, human learning processes, and human intra-actions as both material and discursive in their studies of technology.