ANTHROPOLOGY

Openings and Retrospectives

TENTACLES OF MODERNITY: Why Electricity Needs Anthropology

TANJA WINTHER
HAROLD WILHITE
University of Oslo

In recent years, there has been a rekindling of anthropological interest in energy and its relationship to economy, culture, and society, mainly motivated by two global crises: the approaching end of the oil era and global warming (Strauss et al. 2013; Mitchell 2011; Huber 2013). As Dominic Boyer (2014) points out in a recent special issue of *Anthropological Quarterly*, while anthropological interest in energy is in the process of rebounding from a mid-twentieth-century lull, Leslie White (1943) drew energy to the center of debates on human development in the 1930s and 1940s. White's evolutionary theory of development was controversial, but his insights on the importance of energy in the development of modern capitalism stimulated new thinking that incorporated energy into discussions surrounding political economy and societal development. This legacy—critiqued and furthered by Laura Nader (1980, 2010) over the past three decades—features prominently in several new books and articles on the deep integration of energy, political economy, and development. In *Carbon Democracy*, Timothy Mitchell (2011) proposes that classic political economy treated energy and environment as exogenous to society. He argues that energy, development,

and political power are integrated at local, national, and global levels. This integration constitutes "socio-technical worlds, in which what we call social, natural and technical processes are present at every point" (Mitchell 2011, 239). Matthew Huber (2013), writing about oil and economic development in the United States, contends that oil has not only enabled capitalist political economy, but has permitted householders to incorporate capitalist principles in the ways they create and manage the home and household.

Anthropologists who have engaged with energy and society have mainly concerned themselves with fossil fuels and the role of these in global politics—specifically, around issues of climate change, energy security, and oil depletion. As to the societal impact of introducing electricity, which constitutes a radical shift in terms of harnessing, transporting, and consuming energy, there have been several noteworthy contributions over the past decades on the drives for and implications of Western electrification (Cowan 1983; Hughes 1983; Schivelbusch 1988; Nye 1990). However, few contributions address the implications of the ongoing global extension of electricity. There is currently a global initiative to provide universal access to electricity, which promises that in the next fifteen years, 1.3 billion people will get access to electricity for the first time.[1] This is likely to have enormous societal and cultural impacts. The tentacles of electrification can be regarded as a central element of "modernity at large" (Appadurai 1996), and as we will show in this piece, electricity's arrival in new places initiates a complex interaction between local ways of doing things and the multiple potentials for change that electricity brings. This interaction infiltrates virtually all of the traditional subjects of anthropology: senses of place; perceptions of risk; discourses of modernity; community and household practices; rituals and ceremonies; local economy and politics; and social relations of various kinds, from citizenship, kinship, and gender to generational dynamics and people's relationships with occult forces. We argue that the study of electrification is essential to understanding not only the transformation of local cultural experiences but also an increasing translocal interconnectedness and its human implications. Building on our previous empirical work in Zanzibar,[2] we will illustrate how the study of an electrification process and its social impacts yields translocal insights, and we will argue for a mobilization of anthropology around the processes and impacts of electrification.

Electricity makes marvelous things happen and its capacity to produce bright, radiant light makes an especially striking impression. Electricity's introduction thus tends to be associated with progress and modernity. This was the case in

1879 when Thomas Edison displayed an incandescent lamp for the first time in Menlo Park in New Jersey, in 1886 when the sultan's palaces in Zanzibar Town were lit, and from the 1920s onwards as electricity was extended to U.S. and Russian villages and farms through rural electrification programs (Coopersmith 1992; Nye 1990). Electricity is also associated with the provider, normally the state, and the arrival of electricity affects the state-citizen relationship in crucial ways. For example, with the coming of the electricity grid to rural Zanzibar in the 1980s and 1990s, the government gained an efficient new mechanism for strengthening its political control over the population—a not uncommon desire for authoritarian regimes (Scott 1998).

When the grid arrived in Uroa village, Zanzibar, it triggered a tense local political conflict. As is common in Zanzibar, Uroa was divided into two main groups: the village administration and its opponents. The opposing group, skeptical about who would pay the costs of grid connection, was said to have run a campaign against electricity. They were described by the village administration as old and "backward" men who were afraid of electricity and were opposed to any change suggested by the administration. The debate continued for a year and included accusations that the opposing group was performing evil magic. Several public protection rituals, partly led by Islamic leaders, were organized in the village before electricity could finally be introduced.

The arrival of electric light can change the meaning of place. In Uroa people began to speak of their village (*kijiji*) as a town (*mji*) on the day the streetlights were turned on. By conceptually and materially bridging the gap between center and periphery, the electrified village redefined its position within discourses of modernity and development, thus elevating the status of this electrified place vis-à-vis neighbors who continued to live in darkness. Conversely, James Ferguson (1999) has used the deterioration of the electricity system in Zambia as an icon of how people's expectations of modernity came to falter.

The sense of centrality brought on by electricity is further intensified by people's newfound access to mass media and communication, enabled through such devices as televisions and mobile phones. Electricity literally connects various localities in new ways and modifies perceptions of belonging. An older man in Ikisaya village in Kenya expressed his expectations that electricity and television would bring with them a feeling of inclusion and national identity: "When I have seen what the President looks like, I will also feel as being part of Kenya" (Winther 2015).

The coming of electricity also provides a medium for strengthening the social power of existing institutions. In Uroa electricity strengthened the standing of Islam, the villagers' religious practices, and their affiliation with global Islamic networks (Winther 2008). Amplifiers and speakers ensured that people would wake up for the 5:00 a.m. call for prayers, tape recorders and television programs conveyed the messages of grand religious leaders, and electricity-driven water pumps ensured access to clean water. Overall, the bright, fluorescent light radiating from the village mosques at night testified to the purity and omnipresent power of Islam in this place, evoking Henrietta Moore's (1996) observation that the organization of the material world does not reflect social relations per se, but their representations. Because electricity's infrastructures are physically heavy, costly, and enduring, their configuration continues to remind observers of who holds power. Conversely, women's productive interests were not taken into account during electrification: female institutions in the village such as the mill and kindergarten were never electrified, reflecting women's subordinated status in Uroa.

At the same time, the introduction of new technologies set negotiations of cultural values into motion. Electricity was quickly integrated into funeral and wedding ceremonies in Uroa by providing light for cooking and other activities at night, as well as powering the amplifiers and speakers to be used during religious talks and for music. Electricity was regarded as so indispensable at funerals and weddings that the electricity company made allowances for increased electricity use during these ceremonies. Similarly, the company allowed husbands with several wives living in separate buildings to save costs by connecting their various houses to the same electric meter, which is against formal regulations. A striking feature of the arrival of electricity was that the practices associated with many institutions and ceremonies were modified; nevertheless, access to electricity reaffirmed rather than changed existing ideologies and power relations.

The Zanzibari case exemplifies electricity's potential to modify the geography of everyday movement, affecting everyday practices and relationships along the way. The desire to watch television prompted men to come home in the evening instead of spending time outside the house with friends. Living rooms were restructured to allow for gender-mixed settings of television viewing while still keeping a proper moral order. Due to the prestige of the modern couple hosting television-viewing time, the former gender hierarchy was temporarily challenged, elevating the female host's social position above that of male guests. In general, people would socialize more in the evenings and go to bed later,

Figure 1. Uroa at night. Photo by Tanja Winther.

leaving spouses with less time for intimacy. Moreover, outdoor space was re-
garded as safer to humans because spirits were thought to prefer darkness and
tended to withdraw from (en)lightened villages. With electric light, villagers
reclaimed outdoor spaces at night that were formerly the domain of occult forces.

After a decade, electricity was normalized in the village in a double sense;
one-third of households had obtained a connection, and electricity was now con-
sidered something a house should have. One's ability to meet the cost of a con-
nection to one's house (representing five months of income) became a new cri-
terion for measuring men's success as providers. Before electrification, male status
had been evaluated mainly based on the number of children and wives, but now
a man might be ridiculed if he married a second or third wife without being able
to provide the first wife with access to electricity. Because it is vital for a man to
treat his wives equally, the expectation that electricity would be provided became
a barrier to marrying several wives. This shift, together with other new criteria
for judgment of success that referenced development, led us to the conclusion
that electricity's arrival had contributed to establishing the modern realm as a
third knowledge system (see Barth 1993), working in parallel with Islam and
occult knowledge, including witchcraft and spirit knowledge.

These snapshots of electrification's multiple impacts in one site underscore
the importance for ethnography and anthropological theory to take more seriously

the place of electricity in maintaining and challenging social orders, an effect that tends to be overlooked in current assessments of electrification projects in the global South (Winther 2015). These impacts also reveal what appear to be more universal qualities of electricity that are worthy of further anthropological reflection as they might illuminate and bridge different sites across the world. For example, the striking visibility of electric light helps electricity to effectively mark differences between places and groups, and due to the cost of connection, only the most privileged private homes in places like Zanzibar tend to be connected. Moreover, electricity's materiality is fast. Electric light can be summoned with a switch and thus more quickly than with kerosene, which entails finding matches and lighting a lamp.

Despite this high speed, the advent of high-voltage electricity systems also meant that the location of the production of electricity (and the pollution it generates) would most often be geographically distant from the points of consumption. The arrival of large-scale electricity grids led to a geographical and conceptual separation between production and consumption, reducing the control and know-how related to resource management and the environmental consequences of everyday practices.

The sources for electricity's production (e.g., hydropower, solar photovoltaic systems, or fossil fuels) may nonetheless affect people's perceptions of the electric current. In principle, the closer consumers are to the production end (whether physically or mentally), the more significant the source of production is in terms of how they perceive electricity. The electricity in Zanzibar was imported from the mainland of Tanzania through submarine cables, and people were not concerned with its sources. In contrast, people in Norway and France are highly concerned about their countries' main sources of production (hydropower and nuclear, respectively), and this awareness influences people's perceptions of the nature of electricity (Winther and Bouly de Lesdain 2013). In Norway, electricity is perceived to be cheap, safe, and clean, and is associated with the rivers providing the energy, which are natural and regarded as common resources. In France, electricity is perceived to be risky, both economically and in a physical sense. Various "electricity cultures" are contingent on both sociocultural and sociomaterial factors. Whatever perceptions people may have, the physical links between production and consumption invites the social study of electricity as chains of technologies (Shove et al. 1998).

Electricity's physical dangers also make themselves felt when electricity is new. Poor insulation and secondhand appliances may trigger minor electric shocks

(as one of the authors frequently experienced when living in Zanzibar) and fuel the debate on electricity's physical hazards. The theme of danger was most strikingly brought up in Uroa by groups who opposed electrification and among ordinary men and women when discussing the potential use of electric stoves in the village.

Finally, electric light brings with it a fundamental impact on the distinction between day and night. Instead of depending on the natural cycles of sun and moon, daily activities can be shifted in time and space. In this sense electricity enables people to overcome "natural" limitations and to experiment with new practices. In Uroa this had the effect of speeding up the pace of life to the extent that many people felt that they had too little time. Many referred to this effect when telling us about the changes brought by electric light and television, complaining that they now had "no time" (*hamna time*). Also due to the new range of activities and resulting time constraints, women in Uroa had cut down on the number of meals they cooked to two per day, contrasting with the continuing practice in nonelectrified villages of preparing three meals per day. Thus not only was electricity perceived to be fast in itself, but it led to a new relationship to time that was detached from natural cycles and accelerated the pace of everyday life. Correspondingly, people's time management and concerns changed, often in unpredictable ways.

The arrival of electricity in a new place is a moment when habitual practices are challenged and new practices form in the interaction between the close and the distant (Wilhite 2008). Electricity enables and conditions people's access to light, television programs, mobile phones, fans, freezers, and other appliances, each of which have the capacity to transform social life in important ways. Electricity is essential for virtually every form of modern media and is thus an important subject for ethnographic studies of temporality, distance, and translocal connectedness. New technologies require new solutions for organizing social life, triggering negotiations, conflict, and potentials for social transformation, but may also be used by groups in power to further strengthen their positions. At the same time, electricity forms a central element of contemporary existence and the sense of modern belonging. This is why the study of electrification as a social phenomenon is likely to provide food for thought in conversations about modernity, materiality, and sustainability. Identifying the changes electrification brings to social relations, cultural practices, and human-nature relationships raises new theoretical and empirical challenges for anthropologists, yet the sociocultural dynamics of electrification have not yet drawn the attention they deserve from

anthropology. Conventional conceptions of electricity and electrification meanwhile propose that electricity-dependent technologies are silver bullets that will promote development and satisfy the needs and desires of consumers (Wallenborn and Wilhite 2014). There is a general need to bring experiential (situated) knowledge, cultural practices, material agency, and political economy to theories of development and electrification. This would imply, as the case of Uroa illustrates, paying close attention to instances of electrification and how these impact both the social construction of needs and the mediation of social relations within the household and beyond.

NOTES

1.   The Sustainable Energy for All initiative (www.se4all.org) is a partnership of the United Nations and the World Bank.
2.   Fieldwork was conducted in rural Zanzibar in 1991 and 2000–2001, with return visits in 2004, 2005, and 2006, totaling fifteen months of fieldwork. Uroa village was the main village of study. Zanzibar is a semiautonomous state that forms part of Tanzania. See Tanja Winther (2008) for more details about methodology.

REFERENCES

Appadurai, Arjun
    1996   *Modernity at Large: Cultural Dimensions of Globalization*. Minneapolis: University of Minnesota Press.
Barth, Fredrik
    1993   *Balinese Worlds*. Chicago: University of Chicago Press.
Boyer, Dominic
    2014   "Energopower: An Introduction." *Anthropological Quarterly* 87, no. 2: 309–33. http://dx.doi.org/10.1353/anq.2014.0020
Coopersmith, Jonathan
    1992   *The Electrification of Russia, 1880–1926*. Ithaca, N.Y.: Cornell University Press.
Cowan, R. S.
    1983   *More Work for Mother: The Ironies of Household Technology from the Open Hearth to the Microwave*. New York: Basic Books.
Ferguson, James
    1999   *Expectations of Modernity: Myths and Meanings of Urban Life on the Zambian Copperbelt*. Berkeley: University of California Press.
Huber, Matthew T.
    2013   *Lifeblood: Oil, Freedom and the Forces of Capital*. Minneapolis: University of Minnesota Press.
Hughes, Thomas P.
    1983   *Networks of Power: Electrification in Western Society, 1880–1930*. Baltimore, Md.: Johns Hopkins University Press.
Mitchell, Timothy
    2011   *Carbon Democracy: Political Power in the Age of Oil*. London: Verso.
Moore, Henrietta L.
    1996   *Space, Text and Gender: An Anthropological Study of the Marakwet of Kenya*. New York: Guilford Press. Originally published in 1986.

Nader, Laura
    1980   "Energy Choices in a Democratic Society." *Report of the Consumption, Location, and Occupational Patterns Resource Group, Synthesis Panel of the Committee on Nuclear and Alternative Energy Systems*, Supporting Paper 7. Washington, DC: National Research Council. http://www.nap.edu/openbook.php?record_id=18632
    2010   *The Energy Reader*. Oxford: Wiley-Blackwell.

Nye, David E.
    1990   *Electrifying America: Social Meanings of a New Technology, 1880–1940*. Cambridge, Mass.: MIT Press.

Scott, James C.
    1998   *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed*. New Haven, Conn.: Yale University Press.

Schivelbusch, Wolfgang
    1988   *Disenchanted Night: The Industrialisation of Light in the Nineteenth Century*. Translated by Angela Davies. Oxford: Berg. Originally published in 1983.

Shove, Elizabeth, Loren Lutzenhiser, Bruce Hackett, Simon Guy, and Harold Wilhite
    1998   "Energy and Social Systems." In *Human Choice and Climate Change*, edited by Steve Rayner and Elizabeth L. Malone, 291–325. Columbus, Ohio: Battelle.

Strauss, Sarah, Stephanie Rupp, and Thomas Love, eds.
    2013   *Cultures of Energy: Power, Practices, Technologies*. Walnut Creek, Calif.: Left Coast Press.

Wallenborn, Grégoire, and Harold Wilhite
    2014   "Rethinking Embodied Knowledge and Household Consumption." *Energy Research & Social Science* 1: 56–64. http://dx.doi.org/10.1016/j.erss.2014.03.009

White, Leslie A.
    1943   "Energy and the Evolution of Culture." *American Anthropologist* 45, no. 3: 335–56. http://dx.doi.org/10.1525/aa.1943.45.3.02a00010

Wilhite, Harold
    2008   *Consumption and the Transformation of Everyday Life: A View from South India*. New York: Palgrave Macmillan.

Winther, Tanja
    2008   *The Impact of Electricity: Development, Desires and Dilemmas*. Oxford: Berghahn.
    2015   "Impact Evaluation of Rural Electrification Programmes: What Parts of the Story May Be Missed?" *Journal of Development Effectiveness* 7, no. 2: 160–74. http://dx.doi.org/10.1080/19439342.2015.1008274

Winther, Tanja, and Sophie Bouly de Lesdain
    2013   "Electricity, Uncertainty and the Good Life: A Comparison of French and Norwegian Household Responses to Policy Appeals for Sustainable Energy." *Energy and Environment Research* 3, no. 1: 71–84. http://dx.doi.org/10.5539/eer.v3n1p71