Technologies of Ecological Mediation: Ethical Conflicts Over Environment and Imagined Future in Bali

Birgit Bräuchler

University of Copenhagen, Denmark /birgit.braeuchler@anthro.ku.dk

Abstract

Different world views and ontologies require different technologies to deal with environmental issues. Land reclamation plans in Bali's south, meant to open up new space for tourist development, triggered strong but varied responses in the Balinese population, from rejection to enthusiasm. All actors claim to aim towards a prosperous Bali, and at the protection of a degrading environment, but notions of prosperity and protections and the means and technologies used differ tremendously which leads to ethical conflicts. This paper identifies three actor groups based on the technologies they use to mediate relationships in the ecologies they inhabit. Drawing on modern interventionist technology and development and implied universal moralities, scientists aim to manage environment and normalize ecologies for economic benefits or environmental protection. In contrast, religious Balinese actors, for whom environments are dwelling places of spirits and gods, make use of their bodies as means of mediation to communicate with the non-human and restore the balance between environment, humans and god. A third kind of technology used in the reclamation case is a broad mix of media, from traditional theatre to new social media, that are meant to mediate between locally rooted ontologies and global activism, communicate resistance to a broad public, and thus save a (sacred) environment and Bali. In the Bali case, technologies appear ambivalent as they contain contradictory forces and their relationship with the environment is highly complex, which makes consequences quite unpredictable and ethics quite diverse.

Keywords: Technology, Environment, Ethics, Media, Activism, Religion, Adat, Indonesia, Bali

Introduction

Different worldviews and ethics require different technologies to deal with environmental issues. Land reclamation plans in Bali's south triggered various responses in the Balinese population, from outright rejection to enthusiastic embrace. No matter whether they support or reject reclamation, all actors claim to aim towards a prosperous Bali and at protecting a degrading environment. All stakeholders have explicit "moral visions of the good" (High, 2022: 614), but notions of prosperity, protection and the technologies to be used to 'do good' differ , due to the different "moral choices" (Hamelink, 2000: 1) these stakeholders make and the different futures they imagine. As anthropological research constantly reminds us, the world's ethical diversity does not allow for the

simple universalisation and homogenisation of a culture's or group's values and morality, including the allegedly universal and objective culture of human rights (Goodale, 2006: 25).[1] Questions of morality and ethics are always embedded in "the substance of the social" (Fassin, 2012: 4) and the various political, religious, economic, ecological and cultural entanglements that come along with it.

This article differentiates actor groups with regard to the different "contextualized ethical systems" (Goodale, 2006: 28) they draw on, and the techniques and technologies they use to mediate relationships in the ecologies they inhabit. It analyses "registers and regimes of … moral reasoning" (Douglas-Jones et al., 2022: 519) around the reclamation plans in Bali's south. Drawing on modern interventionist technology and its ethics, (natural) scientists and developers want to manage environment and normalise ecologies for economic benefits or environmental protection. In contrast, religious Balinese actors, for whom the environment includes the dwelling places of spirits and gods, make use of their bodies as means of mediation to communicate with the nonhuman and restore the balance between environment, humans and gods. A third kind of technology used in the reclamation case is a broad mix of media, from traditional theatre to social media, that are meant to mediate between locally rooted ontologies and global activism and thus save a (sacred) environment. This article first reflects on diverging conceptualisations of the relationship between technology, ethics, society and environment, before it introduces the Bali reclamation plans, some main actor groups involved in their promotion or rejection and their ethical frameworks. In a next step, it analyses the different positions and the emerging tensions and ambivalences based on ethically informed and diverging conceptualisations of environment, nature, culture and technology. This article extends the notion of technology by including social media as well as the human body, and zooms in on the intricate relations between diverging moral ecologies and technologies in a country of the Global South. It thus fills a gap in protest studies that "has hitherto given little attention to moral ecology" (Griffin et al., 2019: 5) and contributes to environmental science and technology studies that investigate the relationship between science, technology, society and the natural world and engages "questions about the material environment, environmental movements, and environmental knowledge" (Frickel and Arancibia, 2021: 458).

Methodologically the analysis draws on ethnographic research done between 2015 and 2017. I conducted participant observation offline in Bali and online in digital spaces created by relevant stakeholders and their followers; more than hundred informal and semi-structured interviews with different stakeholders; qualitative social media analysis; and analysis of material produced by stakeholders such as policy papers, scientific analysis, maps, flyers and songs. Such long-term immersion is the only way to explore the moral worlds that the stakeholder groups construct or live in, from the bottom up, and to get a sense of the interwovenness of human and nonhuman actors and the various translation processes involved (Kouw and Petersen, 2018: 57; Latour, 2005: 106-109). Due to closeness and trust that the researcher builds with specific groups and actors, it is tricky to immerse oneself equally in all settings. In this case, more in-depth immersion took place among those resisting the reclamation plans, where a Science and Technology Studies perspective enabled me to analyse the networking, collective organisation and action of a diverse group of people, including villagers, students, scientists, activists and religious authorities (cf. Frickel and Arancibia, 2021: 469).

Conceptual framework: technology, environment, media

Diverging worldviews, ontologies and moralities of different groups of people cause the emergence of a plurality of ecologies with different sets of actors and different kinds of relationships between what is commonly called humans, nature and technology. Following Eriksen (2015: 252), technology literally means "knowledge about technics" (or techniques) and generally "consists of the systematised acquired skills and man-made material implements humans reproduce and apply in their dealings with nature", including the

organisation of relations with other humans. Scientific and technical knowledge is often seen by its proponents as objective and universally applicable (Sismondo, 2010: 203-204). It is seen to exert control over nature, through effectively exploiting natural resources or through alleged environmental protection. In this view, scientific knowledge is considered to embody a universal ethics and produce true facts, independent of any social and cultural specificities and dynamics (Niewöhner et al., 2012). This assumes a dichotomy between technology and society or culture (see also Hamelink, 2000: 6) and ignores the moral appropriations of technical knowledge once it leaves "the protected space of experimentation to be applied in the real world" (Fassin, 2012: 12).

The challenge of viewing "technology as a culture-internal phenomenon" (Sørensen, 2012: 128, translation BB) implies that any technology does "not simply arise fully-formed to present ethical dilemmas about their use. Instead, they are shaped by both material factors and the interests and perspectives of social actors involved in the processes of technological creation, regulation and use" (Morrison, 2015: 7). This point is clearly substantiated by STS research on the antidemocratic nature of technological development (Feenberg, 2002: 3) and biased technologies, for instance through the racialisation of technology design and functioning (Bartram et al., 2022; Benjamin, 2019; Noble, 2018). According to Feenberg, it is combinations of ideology and technique that "control human beings and resources" (Feenberg, 2002: 15). And they do so in ways that resonate with what I conceptualise as moral ecologies below.

Scholars of anthropology and Science and Technology Studies (STS), have argued against universalistic notions of technology and against technological determinism (Feenberg, 2002; Morrison, 2015). Culture and technology are co-constitutive. This implies that technologies and techniques are "cultural products which form part of ongoing processes in society and can therefore not be studied separately from those relationships" and vice versa (Eriksen, 2015: 253). Ignoring such situatedness of technical knowledge and its embeddedness in specific ethical and political frameworks can limit "its applicability in concrete situations" (Sismondo, 2010: 203). If technology is socially constructed in specific cultural contexts, drawing on and making specific moral assumptions, it is far from 'neutral' (Niewöhner et al., 2012: 23-24; Pfaffenberger, 1988: 240). As we will see later, such social and moral constructions can involve humans and nonhumans, technical as well as ritual techniques and cosmological knowledge. Pfaffenberger redefines technology as "a set of social behaviours and a system of meanings" – "a total social phenomenon" – that is material, social and symbolic at the same time (Pfaffenberger, 1988: 236). An anthropologically informed approach looks at the interlinkage of science, technology and society or culture in everyday life and analyses how different knowledge systems, technologies and techniques "compete for interpretive authority and efficacy (*Deutungshoheit und Wirkmacht*)" and thus challenge or reproduce specific power constellations (Niewöhner et al., 2012: 9, 24) and environmental relations. It can help us better understand how claims about the future-orientedness of certain technologies are developed and provide legitimacy for their use (Morrison, 2015: 13-14), be it technologies that control the flow of water or trance techniques that enable the medium to tap into the knowledge of a transcendental world.

As a contribution to environmental STS, this article investigates technological practices and knowledge production "concerned with the dynamics of natural systems, with social intervention and impacts on the natural world" (Frickel and Arancibia, 2021: 459). A concern in this field is "epistemic inequality, or how scientific knowledge production is implicated in altering or reinforcing power imbalances and social hierarchies among different groups", fostering the "production of ignorance" and denial of (environmental) knowledge that is not in line with scientific solutions (Frickel and Arancibia, 2021: 464) and certain business interests. This article studies how different knowledge systems and related moral ecologies clash in the reclamation case on Bali, Indonesia, where I not only investigate institutionalised forms of acknowledging the critical role of environment in STS such as environmental impact assessments, but also go beyond the "construct of 'nature' as a baseline condition" (Yearley, 2007:

922) and look at the dynamics of human-environment relations and the agency of nonhuman and civil society actors.

Scholars like Ingold (2000), Descola and Pálsson (1996) argue against the dominant dichotomy between nature (or environment) and society (or culture). All these concepts are social constructs and relational terms that form part of broader ecologies (Ingold, 2000: 20). Human-environment relations are integral to society. They range from exploitative to protective modes to "the rejection of any radical distinction between nature and society and between science and practical knowledge" (Ingold, 2000: 16). The latter is exemplified by Balinese ethics and trance techniques that appear to integrate humans, nonhumans and nature on equal terms into their moral ecology. These dichotomies also inhibit "an adequate understanding of local forms of ecological knowledge and technical know-how, as these tend to be objectified according to western standards" (Ingold, 2000: 4), which is an ethical action itself.

While ecologies in the plural imply the lived relationships between humans and nonhumans, *moral ecologies* concern the ethics and moralities tied to different understandings and enactments of these relations (Scaramelli, 2021; Sprenger and Großmann, 2018). Moral ecologies have also been described as forms of resistance (Cortesi et al., 2017), informed by diverging ideologies of resource use (Dove and Kammen, 1997) and diverging notions of just human-nonhuman relations (Scaramelli, 2019). Without wanting to essentialise the stakeholder groups involved in the Bali case,[2] each group relies on a different "ethical system" (Goodale, 2006: 28) and the techniques and technologies they use to mediate, transform, or maintain relationships in the ecologies they belong to differ (Bräuchler, 2020; Sismondo, 2010).

Ironically, as Castells argues, it is the objective of the environmental movement that emerged in the late 1960s around the globe, as a new ethical framework, "to reconstruct nature as an ideal cultural form" (Castells, 2010b: 508). This was a reaction to the disastrous effects of environmental degradation, largely through technological advancements, expanding economic markets and the increasing commercialisation and privatisation of environment and nature (Descola and Pálsson, 1996: 13). Environmental responsibility and concern for 'nature' thus became global affairs, without freeing local actors from their responsibilities. The relationship between environment or nature and technology is thus highly ambivalent and complex. Technology and science are used for both exploitative and protective purposes, by governmental institutions or businesses and environmental movements (Frickel and Arancibia, 2021: 467-468; Sørensen, 2012:132). Moreover, information technologies such as social media are increasingly used to mobilise people against (or for) environmental destruction. This clearly illustrates that such technology, while not determining societal change, opens up new spaces for action, transformation and imagined futures. Users of new information technologies are consumers and producers of information and technology at the same time. This does not imply, however, that these users are always in control of the outcome (see also Hamelink, 2000: 4, 52).

Couldry and Curran (2003: 4, italics in original) have identified media as "*an emergent form of social power* in complex societies whose basic infrastructure depends increasingly on the fast circulation of information and images"; obtaining media power, they continue, is one means to gain "relative control over society's representational resources". As Postill (2016: 160) explains, "it is the coming together of everyday people, technology nerds and other political actors via social media, mainstream media and in physical settings such as streets and squares that drives processes of change". Only through the combination of new and old, alternative and mainstream media, local rootedness, face-to-face gatherings and collective actions in physical space do movements, such as the Balinese resistance movement, become effective. They can mobilise a broad variety of media users, gain public legitimacy, political force and increasing numbers of followers through the establishment of trust and network solidarity that are meant to contest inequality, injustice or autocracy in nonviolent ways (see e.g. Gerbaudo, 2012; Juris, 2012). New media can bridge the gaps between an activist core and mass publics, user-generated content and mainstream mass media, and local struggles and international attention

(Aday et al., 2012: 5-6), thus trying to address issues of participation and representation.

Indonesia and Bali

For decades, the Indonesian government's autocratic politics and ethics led to the imposition of development projects without any prior informed consent or involvement of affected local communities. This continues even in the decentralisation era after President Suharto's step down in 1998. Environmental impact analyses are required by law for any business that wants to open up, for instance, plantations, mining or logging sites, and society is required to be involved in the environmental protection, management and decision-making processes. However, throughout Indonesia, assessments are often reduced to technical environmental impact analyses, without considering social and cultural impacts as this would require time for in-depth analyses that go beyond calculating science formula. This prompts environmental and human rights activists to stand up for the (cultural) rights of those local communities and the protection of their environment and resources. In fact, the environmental movement is closely connected with the struggle for democracy in Indonesia; it emerged in the late 1980s and 1990s despite Suharto's iron fist, simultaneously promoting conservation, democracy, the rights of marginal people and justice (Tsing, 2005: xii).

Bali is the main tourist destination in Indonesia and its population is largely Hindu, in a majority Muslim country. Religion in Bali is closely intertwined with *adat*, that is local tradition and customary law. *Adat* refers both to "an immutable divine cosmic order and to the social order instituted accordingly by their ancestors" (Picard, 1999: 31). In Bali, as Lambek (2012: 345) argues with Durkheim, "religion or ritual forms the foundation for ethics and ethics is foundational for, or intrinsic to, society or social life". The unity of religion, *adat* and culture is important for Balinese identity and participating in religious rites is a customary obligation as it positions each individual in a local community and a descent group (Picard, 1999: 17). It is suggested that religion allows humans to not only become better people (Lambek, 2012: 346), but also make morally rightful decisions, as in the reclamation case presented in this article. Both human and nonhuman, visible (*sekala*) and invisible (*niskala*) play important roles in Balinese cosmologies. But culture is also the island's most valuable economic resource and tourist attraction, which induces Balinese to invest in and preserve their culture, torn between reification and invention (Picard, 1999: 16).

Due to its economic value, the government, and most Balinese themselves, want to maintain the image of a harmonious and beautiful island. However, massive developments from the 1980s have multiplied tourist numbers and caused severe environmental degradation, pollution, water scarcity, land expropriation and the endangerment of the very culture and environment that is key to Bali's success in tourism. To make things worse (or better, depending on one's point of view) Bali–Nusa Tenggara has been identified as one of six growth centres in the government's Masterplan for Acceleration and Expansion of Indonesia's Economic Development (MP3EI), an ambitious plan to support Indonesia's transformation into a developed country by 2025. Balinese people for a long time complied with such policies. However, alongside the democratisation movement, some of them started to articulate their protest against external threats and thus re-articulated dominant Balinese ethics. They set a counterpoint to the generally apolitical orientation of Balinese society (Hough, 2008: 122; Warren, 1998: 245) and the government's amoral policies, asking for their rights and promoting spiritual revitalisation and cultural restrengthening.

During Suharto's repressive regime, media were severely restricted to cut off any dissenting voices and the coverage of any possible tensions or conflicts in the country. After his step-down, press freedom was granted as part of democratisation. Media are now increasingly being used by different groups to push through their political and economic interests. At the same time, media have become important means for anti-establishment politics, empowering the marginalised, and fostering resistance against the government. Internet access increased exponentially, mobile phone subscriptions outnumber population numbers and Indonesians are world leading social media users. However, due to new

media laws designed to restrain independent media, Indonesia is still not ranked very favourably in the world's press freedom index (placed 124 out of 180 in 2017, Reporters without Borders 2017). It was against this political, cultural and media backdrop that the regional government in Bali granted an investor, PT Tirta Wahana Bali Internasional or PT TWBI (TWBI in the following), owned by one of Indonesia's biggest tycoons Tomy Winarta, a license to conduct environmental feasibility studies for a land reclamation project in Benoa Bay in Bali's south. This triggered enormous resistance among the Balinese, including environmental and human rights activists as well as spiritual and *adat* leaders.

Environmental ethics and their technologies

In my ethnographic research, I looked at the confluence of media, technology and the environment and how they formed distinct but overlapping moral ecologies. In the following, I analyse the strategies of three stakeholder categories against the backdrop of earlier conceptual reflections: 1) investor and government, 2) *adat* and religion, 3) activists and youth. These are main actors in a much more complex actor landscape, with a lot of heterogeneity within the respective groups. However, in order to carve out the argumentation within the space of this article, a certain simplification is necessary. Actors, their moral ecologies, their strategies and motivations to protect the environment, differ radically and are here expressed through an account of their diverging positions and actions in relation to the land reclamation issue. The analysis refers to positions in the environment-technology debate as sketched above and aims to uncover the intricacies of such relationships. Each actor-group uses technologies and techniques according to their respective morality to make 'nature' well-disposed towards them and make it fit their worldview, interests and imagined future.

Government and investor: managing environment

The regional government and the investor clearly take the view that the environment can be managed, regulated and thus saved by a universal human technology with its implied universal morality. Their claims and interventions remind of colonial policies and their continuation in national park policies, where governments claim that nature can only be preserved through the removal of the destructive 'human', ignoring the fact that often indigenous people contributed to the creation and maintenance of that 'nature' (Griffin et al., 2019: 2-4). Related notions of sustainability and morality differ widely from those held by people inhabiting the area (Griffin et al., 2019: 10, 14).

Through the creation of 700 hectares of artificial islands in Benoa Bay that are supposed to accommodate resorts, residential clusters, entertainment and Balinese theme parks, government and investor not only claim to revitalise a polluted ecosystem but also to open up thousands of jobs, turn Benoa Bay into a new trademark and introduce high-end quality tourism that offers water sports and nature, luxury and exotic culture, entertainment and tranquility, connectivity and sustainability. They claim to do all this in an ethically sound and environmentally friendly manner, while valuing Bali's customs and culture (see also nusabenoa.com, last accessed, 17.11.2023). They hubristically assume that there is societal consensus about what the 'common good' is, which is usually defined to be in harmony with the aims of the most powerful groups in society (Hamelink, 2000: 4), thus revealing the close link between ethics and power. Equally 'rational' considerations led to the choice of site:

> Located at the Southern side of Bali, Benoa Bay is considered as the heart of the island, as the bay is surrounded by the beautiful mangrove forest. It also happens to be near Bali's most popular tourism site, namely Nusa Dua, Sanur and Kuta. More importantly, the bay is located right between the Ngurah Rai International Airport and Benoa International Harbour, also the newly-operated Bali Mandara Toll Road that lies across the Bay. (TWBI, n.d.)

The toll road is carried by hundreds of pillars and stretches right across Benoa Bay. It connects the city of Denpasar, Nusa Dua and Bali's airport and was built in 2011 as part of the MP3EI, to mitigate

traffic congestion. As some activists I spoke to found out later, the constructor had also built two provisional turnoffs that could easily connect the road to the artificial islands. As marine space and as an area of strategic national interest, the provincial and central governments are in charge of Benoa Bay. In order to allow and open up space for reclamation, the government adapted its legislation. Ignoring Presidential Decree No. 45/2011 that declared Benoa Bay to be a conservation area, Bali's governor, I Made Mangku Pastika, issued the license for TWBI to conduct a feasibility study in Benoa Bay. Later, Presidential Decree No. 11/2014 changed Benoa Bay into a cultivation area of which a maximum of 700 hectares can be reclaimed. All these decisions were made without seeking consent of the residents of the area and thus broke Indonesian environmental laws.

Putting their values and moral ecology centre stage, as the only 'sustainable' solution, government and investor ignore local knowledge systems and pay mere lip service to cultural values through shiny videos and plans to add new temples on the artificial island to enrich Bali's cultural landscape. As Schick and Winthereik (2013) explain for the development of smart grid, it is such top-down design and planning, problem-posing and problem-solving, that is problematic as it does not take into account the affected people, those allegedly benefitting from the intervention and their perceptions, which often renders these projects exclusive, ineffective or failures. Schick and Winthereik (2013: 93, italics in original) aptly describe such approaches as "an imaginative space of opportunity *and closure*".

When contacted, members of organisations founded by TWBI on Bali emphasised that their intention is to strengthen Bali and its people through 'green development', revolutionary projects and a neoliberal economy. They kept reiterating that they want the Balinese 'to jointly prosper'. The building contractors and architects among them will probably get more than a fair share of such new prosperity. They tend to argue that all environmental problems have technical solutions. Such "rendering technical" (Li, 2007: 7), "confirms expertise and constitutes the boundary between those who are positioned as trustees, with the capacity to diagnose deficiencies in others, and those who are subject to expert direction". It legitimises power and proclaims ethical righteousness at the same time.

Not only did the government tailor the law to fit the investment plans, but when scientists from Bali's Udayana University declared the reclamation project was 'not reasonable' mainly for environmental and sociocultural reasons in September 2013, the investor found support from other Indonesian scientists. All this explains how TWBI spent over a trillion Indonesian Rupiah before beginning work on the reclamation. In response to the emerging protest, the investor changed the project motto from 'reclamation' to 'revitalisation'. Along with pro-reclamation scientists, they consider the mangroves to be dead (needing revitalisation) but still one of the main selling points. To 'greenwash' the project and offer tourists a 'pristine mangrove forest view', the investor founded and funds organisations such as the Mangrove Care Forum and installed football star Cristiano Ronaldo as 'Mangrove Ambassador'. To seek the Benoa Bay residents' support and connect to an international social justice discourse, TWBI approached politicians, security forces, village heads and religious leaders and organised free welfare and health programs; making 'corporate social responsibility' according to the project's website. They claim that "the well-being of the people in Nusa Benoa is priority" and quote the UN Secretary-General, Ban Ki Moon, thus allegedly complying with another powerful global ethical framework:

> Sustainable development is the pathway to the future we want for all. It offers a framework to generate economic growth, achieve social justice, exercise environmental stewardship and strengthen governance.

In its efforts to sound culturally and environmentally friendly, the investor also adopts the Balinese philosophy of *tri hita karana*. that is to "uphold the harmonious relationships between God, fellow human beings and the environment" (see e.g. TWBI, n.d., b).

Religion and adat*: cosmological balance*

The *tri hita karana* philosophy encloses the balanced relationship between environment, humans and god and gives expression to the close interlinkage of environment, culture and religion on Bali. For the Balinese, the philosophy is closely tied to its historical, religious, ethical and cultural foundations.[3] Both *adat* and religious figures in Bali and ancient inscriptions reveal that the Balinese owe *tri hita karana* and their traditional village system (*desa pakraman*) to the Hindu Priest Mpu Kuturan who was called to Bali in the late tenth/early eleventh century to help settle tensions between different religious denominations. The concept was strengthened in the 1960s in efforts to have Balinese religion acknowledged as one of Indonesia's official religions, i.e. Hinduism (Ramstedt, 2014b: 64). In the decentralisation era it was revitalised for the juridification of local customary law (Ramstedt, 2014b: 69) and reinvented as an ideological, scientific and policy concept (Roth and Sedana, 2015: 159). In 2012, *subak*, the traditional irrigation system on Bali, was put on the world heritage list as a manifestation of *tri hita karana* (UNESCO, 2012). No matter whether *tri hita karana* is a political construct or not, it is interesting to see how it "is used to give meaning to wider social and political processes, for what purposes and with what consequences" (Roth and Sedana, 2015: 169). In the current reclamation case the philosophy was given even more leverage as it provides those rejecting reclamation an ethical concept that is easily translatable into both the parlance and ethics of activism and an international environmental and cultural rights language.

There is also a very physical presence of *adat* and religion in the Benoa case. Mpu Kuturan and another legendary Hindu priest called Dang Hyang Nirartha, the ancestor of all Brahmana in Bali, are said to have founded Sakenan Temple, one of Bali's major temples located at Benoa Bay. It involves kinship groups from Bali's south who have their shrines there and several villages around Benoa Bay are in charge of the temple management (see also Hauser-Schäublin, 1997: 184-222). Its temple festivals attract large crowds of people from all over Bali. Due to its important role for Benoa Bay and Balinese cosmology, activists and *adat* figures involved in the resistance movement variously visited the temple.

Next to the close interlinkage of environment and culture or religion, Balinese tradition also dissolves the dichotomy between technology and culture. In Bali, technology is highly interlinked with religion, ritual and cosmology, from irrigation systems to temple architecture, ritual technology and the amplification of rituals through media technologies in the current resistance movement. As Lansing (2007) analysed in detail, temples govern the complicated irrigation system that had made Bali such a rich and fertile space. The system is just recovering from the introduction of the 'green revolution', another allegedly universally applicable technology with which the government wanted to spur agricultural production and economy, but which has instead threatened the region's elaborate irrigation system and the Balinese ecosystem. Each individual in Bali belongs to a temple that is highly interlinked with others and all social units possess their own altar or temple. The irrigation system creates and strengthens social interdependencies but is now threatened by the tourism industry and its greed for water and land (cf. Warren, 1998: 237). Such interlinkages and mutual dependencies illustrate the absurdity of scientists' distinction between ritual and, in this case, "the material technology of traditional farming" (Lansing, 2007: 6).

The Balinese way to reject reclamation consists of efforts to restore cosmological order between the visible (*sekala*) and the invisible (*niskala*) and involves praying, mediation and rituals as specific kinds of technology. Even major interruptions such as the Bali bombing in 2002 did not provoke revenge acts, but led to the search for imbalances within Balinese society (Hornbacher, 2009). As anthropological theory accentuates, "rituals are rule-bound public events which … thematise the relationship between the earthly and the spiritual realms"; they synthesise "several important levels of social reality: the symbolic and the social, the individual and the collective; and it usually brings out, and tries to resolve – at a symbolic level – contradictions in society" (Eriksen, 2015: 272-273). Due to the multivocality of rituals and symbols (Turner, 1967) they are able to unite a broad

variety of people; no matter what age or political background, profession or social engagement; they are still Balinese and Hindu and need to fight the endangerment of their culture and livelihoods through, in our case, land reclamation.

The sacred sites in Benoa Bay are frequented for various reasons, such as ritual and spiritual cleansing, cremation ceremonies, the handing over of ashes to the sea, and offerings of worship to the god of the sea. Some of these sites also play a role during Sakenan Temple festivals. Spiritual figures and priests visit these places in Benoa Bay to communicate with the other world via spirit possession and trance. They make use of their bodies as means of mediation to communicate with the nonhuman, asking spirits and gods for advice regarding the reclamation issue. As various religious figures confirmed, spirits and gods strongly reject such intrusion into their dwelling places. Spirit possession, as Lambek (2012: 353-354) argues, allows for the cultivation of ethical dispositions and the expression and possibly satisfaction of ethical concerns, whereas ritual sanctifies the criteria leading to ethical judgements.

Several village leaders told me they are also aware about the environmental and economic harm the project will cause. They have learnt from a reclamation project on neighbouring Serangan Island in the 1990s that destroyed coral reefs and led to erosion in many places, greatly changing the religious and cultural landscape of Sakenan Temple. Villagers are worried that once high-end tourist resorts open on the artificial islands, this space will be closed for both daily Hindu rituals and villagers' fishing activities. In order to be heard by the government, the investor and the outside world, the religiously and spiritually-inspired 'silent protest' (as opposed to the youth's clamorous taking to the streets) needed to be strategically amplified and translated into national and international contexts to attract further support and make visible the incompatibility of diverging ecological perspectives. An activist network (see next section) facilitated this coming out and helped to better organise resistance from below. Among other actions, they facilitated a research team putting together a map including more than 70 sacred sites in and around Benoa Bay. This visualisation of sacredness became an important means of legitimation for the resistance and a tool to mobilise other villages. Motivated by the activists' support, traditional villages opposing reclamation took over the movement concerning all *adat*-related matters and came up with substantial energy and resources to be at the forefront of future action and resistance. As of early 2017, thirty-nine *adat* villages had officially joined the movement, including those around Benoa Bay, thus mobilising thousands of people against reclamation.

Activism and youth: mediatised resistance

Out of networks fighting for democratisation, human rights and environmental protection in Bali and Indonesia, a well-versed activist forum emerged that loudly and aggressively fought the reclamation plans, thus complementing and giving a voice to the more spiritual-oriented silent struggle (for more details see Bräuchler, 2020). Those activists, mostly Balinese themselves but some also from outside the area, mediate between different worlds, the world of neoliberal economy, international human rights, global activism and local culture; they help to translate between different legal systems and power structures (cf. Bremen, 2017). They are thus in a quite challenging position, negotiating and translating between different cultures, worldviews, ethics and moralities, generations and ways to express protest; combining conservation, empowerment and creativity; connecting global protest aesthetics and local tradition; and facing strong opposition by the government, investor and their supporters. As indicated earlier, the human rights they appeal to, just like scientific knowledge, are often misleadingly depicted as universal and objective. As the Bali case shows, human rights are, on the one hand, "inscribed in a common moral Western tradition" (Fassin, 2012: 13) and "the moral language of neoliberalism" (Goodale, 2012: 469) that aggravates the situation of those whom human rights are supposed to protect. On the other hand, they can be an important complement to more local techniques for marginalised, disadvantaged and discriminated people to fight for their rights.

Through strenuous and long-lasting efforts to mobilise a large base and establish relationships

of trust between youth, villagers, advocacy groups and religious or *adat* figures, the protest grew from a few individuals into a mass movement of several thousand people that was able to attract national and international support. At its core is the Balinese Forum Against Reclamation, or ForBali (Forum Rakyat Bali Tolak Reklamasi), founded in 2013. ForBali is an alliance of students, NGOs, musicians, artists, environmentalists, lawyers and village representatives. Through the language of music, solidarity and resistance they were able to bring youth from all over Bali together – a youth that was fed up with the older generation's passivity, apoliticism and the government's sales policy, as I was told by movement members. The movement's main slogan calls for revocation of the new presidential decree that opens up space for reclamation. As legal means turned out to be weak, the group refocused on arguments tied to environmental protection. Learning from the failed reclamation on Serangan Island and drawing on academic research and the knowledge of environmental and advocacy NGOs such as WALHI and Conservation International, ForBali designed a leaflet with thirteen reasons to reject reclamation in 2013. Rather technical in character it was circulated online and offline. The reasons included: the destruction of a delicate ecological balance (as Benoa Bay is a water catchment area for five major rivers); the changing of flows and destruction of mangroves leading to erosion, flooding, ruined fishing grounds and negative impact on other marine resources. More resorts would enhance water scarcity, increase waste, pollution and traffic; it would cause an enormous economic imbalance and neglect any consideration of its wider societal and cultural impact. Here again it becomes obvious that seemingly neutral and scientific knowledge about an ecosystem and related technology can be used for both the promotion and the rejection of reclamation.

Both sides claim to want to restore and protect Benoa Bay but the investor, PT TWBI had more lasting resources to commission feasibility studies that would generate the wished-for results. Activists thus had to shift focus again and push those who are in charge of culture and religion in Bali to the front. Taking on board *adat* proved to be crucial to turning resistance into a mass movement. It required an ethical perspective that went beyond an analytical outsider's view, a perspective from those affected by reclamation that also provides a moral framework to protect nature and environment. This fits into a broader trend, in which marginalised people increasingly draw on *adat* to fight for their rights, and easily connects to an international discourse on cultural rights and environmental activism. Those activists thus needed to engage in a difficult balancing act between different ecologies, changing alliances and the merging of different moralities into a new ethical framework.

Reminiscent of contemporary global protest aesthetics, strategies and their ethical underpinnings, the anti-reclamation movement makes extensive use of a broad variety of media to express non-violent resistance that people with diverging backgrounds can identify with: T-Shirts, songs, posters, traditional theatre and dance, music and modern art, new and old media. Activists also received support from *adat* and religious figures to add spiritual mediation practices to its repertoire. The movement has its own social media team and a huge following online. Musicians and artists are at the forefront and share their concerns with their enormous following. Prominent poster artists and punk rock concerts attract thousands of youths, but ForBali organisers also include traditional arts in these mass events in order to speak to the older generation. They include traditional music and performances, letting the narrative circle around the impact of environmental degradation and land reclamation, to give expression to their main objective: the protection and continued prosperity of Balinese culture and society. ForBali activists organise large-scale demonstrations, but also make use of traditional or religious processions to spread its message such as the parade on the night before the lunar New Year. Whereas social media use allows for widespread mobilisation, the coordination of action, real time documentation, to extend the movement's reach, foster global engagement, expression of solidarity and the countering of mainstream media, offline networks and gatherings in the streets allow for the embodiment of protest and visibility beyond the circle of social media users. Diverse technolo-

gies help unify large numbers of diverse people under the banner of a shared cause.

Due to these strong networks of solidarity in Bali and beyond, the movement has been able to prevent reclamation up until today. It required a convincing movement identity that drew on international human rights and environmental rhetoric as well as local cultural resources and morality, which, in turn, requires expertise in international and national law as well as in local cultural codes and new and old media; it requires an unprecedented joining of hands, where different ethics intersect, collide and reform. Above all, it requires substantive amounts of energy and time to allow for bottom-up and consensus-led decision-making processes in the villages and the involvement of spirits and gods.

Ambivalent technologies and regimes of ethics

All parties (government and investor, environmentalists and activists, religious and *adat* figures) claim that they want to protect Benoa Bay for environmental, cultural and religious reasons. They acknowledge in some way the existing environmental problems in the area. However, the envisaged consequences and means to solve these are very different depending on the ethical frameworks in place. The reclamation party (investor and government) blames common Balinese people for using Benoa Bay as garbage dump, which requires outside intervention (i.e. reclamation). The anti-reclamation party asks the government to develop long-term and sustainable management plans for sewage, garbage and water in Bali before any further development projects are considered. Both sides draw on scientific proof and their own observations and technologies to support their positions.

Different "regimes of ethics" (High, 2022: 609) require a closer look at the different moral worlds in place, as described and analysed above. Hegemonic ideas of technical solutions to environmental problems, for example, build on the illusion of a unified science as neutral ground. However, neither is science the only valid knowledge system, nor is science a unified field or a neutral ground (Yearley, 2007: 925-927). Whereas corporate social responsibility have become integral part of capitalist interventions and business, ethics has "become a battleground where corporations and critics uphold the kind of flourishing that they believe should be brought into being" (High, 2022: 607), which is often not in line with other stakeholder groups' perceptions. But also internally, different 'regimes of ethics' are in place as High explains for her example of oil and gas companies: a specific kind of language and practice of ethics and of doing good, professional codes, and individual professional decision-making and morals. This explains why there are both scientists who support and who reject the reclamation plans on Bali, but it is also an invitation to take a closer look at the construction of regimes of ethics within stakeholder groups.

The language of environmentalism seems to provide common ground for those opposing reclamation. Such alliances work, as activists, religious and *adat* figures want the same thing, in this case to stop reclamation, save Bali's nature and empower Balinese people. The investors make use of similar language, but their moral conceptualisation of environment (or nature) is very different. Whereas it is the seat of spirits and gods for one side, it is a visible ecosystem with fixed rules that can be manipulated and managed through technology for the other. The latter assumes the clear dichotomies outlined in the conceptual framework of technology vs society, culture vs nature, and ignores the constructedness and the social and cultural embeddedness of technology and environment. It also ignores the consequences of technology, assuming everything is controllable and easy to fix (including people). It very much resonates with Indonesian development policies that impose outside models on local contexts and opt for quantity (in terms of turnover and tourist numbers) rather than quality (in terms of local people's livelihood choices).

The government's argument is not very convincing given its past policies. No sustainable water, sewage and trash policy has yet been developed for Bali, despite exponentially rising tourist numbers, and in spite of the availability of scientific technology and knowledge able to overcome such problems. Garbage is not processed, but simply deposited in a 40 hectares

waste depository at the northern end of Benoa Bay. Bali is at or beyond its limits. How can the government expect the Balinese to believe that a new mega development project can sustainably rescue or protect environment (and Balinese culture)? As a professor of Udayana's Center for Sustainable Development told me, he and his colleagues were already involved in a variety of environmental studies in and around Benoa Bay, ranging from a World Bank study on strategic environmental planning for Bali in 2000, to projects analysing the water crisis, to a waste-water treatment project supported by Japan in 2005. Bali has also hosted a couple of sustainability and climate change conferences and trainings, but these have had no direct effect on the island itself.

Diverging conceptualisations of the sacred also give expression to diverging ecologies. Most people, pro or contra reclamation, accept that Benoa Bay or certain parts of it are believed to be sacred. Ideas on how to protect this sacredness differ though. Spirituality – often taken as an antonym of the rational – is a prominent means to substantiate claims of holiness and to involve nonhuman actors in decision-making. For religious figures, restoring cosmological balance requires the safeguarding of nature and environment, the dwelling places of spirits and gods that need worship to make sure they continue providing livelihoods to the people. For the pro-reclamation people I spoke to, in contrast, sacredness is tantamount to cleanliness. For them, a polluted bay, dead mangroves or bacteria contaminated water sources cannot be sacred; rather, sacredness needs to be restored through environmental management and land reclamation. They claim this to be their moral responsibility. Besides, a cultural centre and a new temple would be built on a restored Pulau Pudut, a sacred island in Benoa Bay that has almost disappeared due to erosion, to satisfy religious needs. Reducing sacredness to cleanliness and a new temple is in line with the government's mechanistic use of scientific technologies to manage environment. It also aligns with a scientific argument in which sacredness and religious feelings can be measured and standardised and artificial islands positioned in between sacred spots, thus ignoring their interconnectedness, their unmeasurable aura and the way the visible and the invisible communicate.

The Hindu Dharma Council as the official representative body for Hindu religious affairs tried to mediate such diverging interpretations of sacredness with a decree passed in 1994 that declares mountains, hills, springs, beaches, lakes, the sea, and the confluence of rivers or river and sea to be sacred, each with its specific holiness radius. The government willingly translated it into regional regulations. Critics claim that such regulations aim to quantify sacredness, simplify the concept of the holy and rationalise religious feelings, and thus allow for better control by the government (Ramstedt, 2014b: 60; Ramstedt, 2014a: 73-74; Wardana, 2015: 115). The pro-party accuses individuals and NGOs such as WALHI of manipulating local people and making use of 'sacredness' to secure projects and funding. For villagers at Benoa Bay, Sakenan Temple and others, specific spots of land in Benoa Bay that only appear at certain times, so-called *muntig*, are sacred land and knowledge about their position and meaning is handed down from generation to generation; they cannot be created by human hand. For scientists, capitalists and adherents of a rationalised religion, they are simply the result of sedimentation and bad environmental management – another set of diverging ethical interpretations.

Social movement activists, draw on yet another kind of technology, traditional and social media, to mediate their concerns to a broader local and global public. Here, a couple of emerging concerns need to be addressed that, in fact, also apply to the other technologies: issues of access, participation and representation. It is not sufficient to provide a platform to express one's voice; voices also need to be respected and listened to, as Nick Couldry (2015) rightly argues. Media activists need to have time and draw on economic, social and cultural capital which is not readily available to all people (Couldry, 2003: 47; Juris et al., 2012: 436). They also have to have the infrastructural resources. As a consequence, participation is not only a matter of mobilisation (Atton, 2015: 7), but of resources and skills, which hints at yet another kind of morality as it is the state's responsibility to provide for these. Often, only some key activists or a group's spokespersons have the necessary skills

and resources to shape the nature of movements but are not necessarily representative of the wider majority (cf. Juris, 2012).

Activists use media for their struggle that were produced by the very same enemy that they fight, corporate capitalism. It is the same media used for surveillance, control and for counteraction (Couldry and Curran, 2003: 8; Lovink, 2011). However, as Barassi (2015: 2) showed in her study on web activism, at least some political activists are very well aware of the fact that they are part of the capitalist system, and view this as enabling them to criticise 'capitalism from within'. The diverse and large numbers of social media users in the Benoa Bay case also lead to issues of representation and fragmentation. Convergence strategies, as outlined above, are meant to partly resolve such issues. The interlinkage of old and new media, way beyond the convergence strategies of Indonesia's big media conglomerates (Tapsell, 2015: 193), offers great potential as the synthesis of various kinds of media allows for a broader variety of media strategies, users and a much more diversified audience. Different people have different access to different media that each has a different reach, be it street art, social media, traditional art, video production, newspapers or online forums. As this analysis of the reclamation case shows, solidarity and a lot of strategic planning are needed to overcome such limits or draw on such potential, which, again, requires a substantive amount of knowledge of the local, national and international contexts and moralities on top of organisational skills.

Concluding reflections

The parties involved in the Benoa Bay reclamation case use technology in ways that stem from the underlying moral beliefs of their ontologies and understandings of society, motivations and interests – be it government, investor, activists, *adat* or religious figures. Technologies are thus never merely material or technical, but social phenomenon (Pfaffenberger, 1988: 236). Their usage is, at the same time, closely entangled with and influenced by local, national and international contexts and ethics in which the material and the symbolic aspects of Benoa Bay are embedded. The analysis of the actor and technology landscape and their respective ecologies reveals commonalities, contradictions and ambivalences that ask for the dissolution of the often-times imagined clear-cut divides between spheres such as technology, nature, culture or society. Technologies are highly ambivalent as they contain contradictory forces and are simultaneously 'good' and 'evil'. Depending on the moral ecologies in which they are embedded, technologies are used to either exploit or protect the environment, to manage it or to mediate between the various actor groups. Both investor and activists use scientific analyses to substantiate their claims, with different motivations and results. Religious and *adat* figures oppose technological supremacy, but make use of modern technology to amplify their ethical and group struggle against imperial injustice. They need to make strategic decisions that might look contradictory to their worldviews at first glance, but are mainly pragmatic (cf. von Bremen's analysis of seemingly contradictory indigenous strategies with regards to imposed developmentalism in Latin America 2017). Being part of diverging ecologies (Bräuchler, 2018), religious and *adat* people are aware of their involvement in and dependence on the tourism industry, but they want to have more control over use and benefit of cultural and environmental resources and development (see Reuter, 2009; Warren, 1998). For them, the moral reasons to reject reclamation are twofold, involving both *sekala* and *niskala*, the rational/visible and the spiritual/invisible. This underlines a dilemma Castells (2010a: 184) outlined for the environmental movement more generally, where he found both a "profound distrust of the goodness of advanced technology" and that the movement is keen on "gathering, analyzing, interpreting, and diffusing scientific information about the interaction between man-made artifacts and the environment". Such information helps them to go beyond "shortsighted strategies geared toward the satisfaction of basic instincts" and to promote "intergenerational solidarity" (Castells, 2010a: 184) as well as the restoration of the harmonious relationship between humans and nonhumans, *sekala* and *niskala*. The translatability and connectivity of local ethical concepts such as *tri hita karana* to international

environmental discourses and rhetoric give these *adat* and religious figures a strong standing.

In analysing such complex cases, the notion of 'neutral' technology or of a simple choosing between the use or rejection of technology makes no sense. Technologies are not to be mistaken for the new possibilities they bring with them, but we need to analyse whether, how and why people capitalise on those possibilities (Pfaffenberger, 1988: 240), which depends on the various contextual levels and moralities we have looked at. Technology (and its use) needs defining as a 'total social phenomenon' including rituals and religious beliefs as well as the performative adoption of, for example, media. We need to look at the practices that are, one way or the other, related to technologies, and how actors pull things together surrounding such practices (cf. discussion on media-related practices in Bräuchler and Postill, 2010). Such an approach reveals the ethical relativity of any conceptualisation of technology, society or culture and the multiple relations, dependencies and embeddings between them. As Niewöhner and colleagues note, knowledge and technology "do not exist outside of practice and therefore can only be studied as part of practice" (Niewöhner et al., 2012: 40-41) and, I would add, as part of power politics and moralities, involving human and nonhuman agency that are always embedded in concrete historical, social and cultural contexts. STS research and anthropologically informed approaches can help to investigate the ethical relationships between technology, the human and the nonhuman. They can help to carve out spaces for dialogue and diplomacy, needed to negotiate inclusive solutions for differently articulated environmental problems and modes of existence (Kouw and Petersen, 2018; Latour, 2013; Feenberg, 2002: 22). This article opens up such a space for the Bali case and similar ones.

References

Aday S, Farrell H, Lynch M, et al. (2012) New Media and Conflict after the Arab Spring. In: Peace USIo (ed) *Peaceworks.* Washington: United States Institute of Peace. Available at: https://www.usip.org/publications/2012/07/blogs-and-bullets-ii-new-media-and-conflict-after-arab-spring (accessed 19.3.2024).

Atton C (2015) Introduction. Problems and positions in alternative and community media. In: Atton C (ed) *The Routledge Companion to Alternative and Community Media.* New York: Routledge, pp.1-18.

Barassi V (2015) *Activism on the Web. Everyday Struggles against Digital Capitalism.* New York: Routledge.

Bartram I, Plümecke T and Schultz S (2022) Genetic racial profiling: extended DNA analyses and entangled processes of discrimination. *Science & Technology Studies* 35(3): 44-69.

Benjamin R (2019) *Race after Technology: Abolitionist Tools for the New Jim Code.* Newark: Polity Press.

Bräuchler B (2018) Diverging Ecologies on Bali. *Sojourn* 33(2): 362-396.

Bräuchler B (2020) Bali Tolak Reklamasi – The local adoption of global protest. *Convergence* 26(3): 620–638.

Bräuchler B (2023) Ecological disturbances: Negotiating indigeneity and access to land in Indonesia. In: Duile T, Großmann K, Haug M, et al. (eds) *Plural Ecologies in Southeast Asia: Hierarchies, Conflicts, and Coexistence.* London: Routledge, pp.112-131.

Bräuchler B and Postill J (eds) (2010) *Theorising Media and Practice*. Oxford: Berghahn Books.

Bremen Vv (2017) Indigenous Deals – Cosmologies Negotiated in Environmental and Development Projects. *Sociologus* 67(1): 43-58.

Castells M (2010a) *The Power of Identity.* West Sussex: Wiley-Blackwell.

Castells M (2010b) *The Rise of the Network Society.* West Sussex: Wiley-Blackwell.

Cortesi L, Baker L, Brock S, et al. (2017) Mainstreaming morality: an examination of moral ecologies as a form of resistance. *Journal for the Study of Religion, Nature and Culture* 11(1): 23-55.

Couldry N (2003) Beyond the Hall of Mirrors. Some Theoretical Reflections on the Global Contestation of Media Power. In: Couldry N and Curran J (eds) *Contesting Media Power. Alternative Media in a Networked World.* London: Rowman & Littlefield, pp. 39-54.

Couldry N (2015) Alternative media and voice. In: Atton C (ed) *The Routledge Companion to Alternative and Community Media.* New York: Routledge, pp. 43-53.

Couldry N and Curran J (2003) The Paradox of Media Power. In: Couldry N and Curran J (eds) *Contesting Media Power. Alternative Media in a Networked World.* London: Rowman & Littlefield, pp. 3-16.

Descola P and Pálsson G (1996) Introduction. In: Descola P and Pálsson G (eds) *Nature and Society. Anthropological Perspectives.* London: Routledge, pp. 1-21.

Douglas-Jones R, Bruun MH and Kristensen DB (2022) Ethics, values, and morality. In: Bruun MH, Wahlberg A, Douglas-Jones R, et al. (eds) *The Palgrave Handbook of the Anthropology of Technology.* Singapore: Springer, pp. 509-527.

Dove MR and Kammen DM (1997) The epistemology of sustainable resource use: managing forest products, swiddens, and high-yielding variety crops. *Human Organization* 56(1): 91-101.

Eriksen TH (2015) *Small places, large issues: An introduction to social and cultural anthropology (4th ed.).* London: Pluto Press.

Fassin D (2012) Introduction: Toward a Critical Moral Anthropology. In: Fassin D (ed) *A Companion to Moral Anthropology.* Malden: Wiley-Blackwell, pp. 1-18.

Feenberg A (2002) *Transforming Technology: A Critical Theory Revisited.* Oxford: Oxford University Press.

Frickel S and Arancibia F (2021) Environmental Science and Technology Studies. In: Caniglia BS, Jorgenson A, Malin SA, et al. (eds) *Handbook of Environmental Sociology.* Cham: Springer, pp. 457-476.

Gerbaudo P (2012) *Tweets and the Streets. Social Media and Contemporary Activism*. London: Pluto Press.

Goodale M (2006) Ethical Theory as Social Practice. *American Anthropologist* 108(1): 25-51.

Goodale M (2012) Human Rights. In: Fassin D (ed) *A Companion to Moral Anthropology.* Malden: Wiley-Blackwell, pp. 468-481.

Griffin CJ, Jones R and Robertson IJM (2019) *Moral Ecologies. Histories of Conservation, Dispossession and Resistance.* Cham: Springer.

Hamelink CJ (2000) *The Ethics of Cyberspace.* London: SAGE.

Hauser-Schäublin B (1997) *Traces of Gods and Men. Temples and Rituals as Landmarks of Social Events and Processes in a South Bali Village.* Berlin: Dietrich Reimer Verlag.

High MM (2022) Articulations of ethics: energy worlds and moral selves. In: Bruun MH, Wahlberg A, Douglas-Jones R, et al. (eds) *The Palgrave Handbook of the Anthropology of Technology.* Singapore: Springer, pp. 607-626.

Hornbacher A (2009) Global conflict in cosmocentric perspective: a Balinese approach to reconciliation. In: Bräuchler B (ed) *Reconciling Indonesia: Grassroots Agency for Peace.* London: Routledge, pp.34-53.

Hough B (2008) Balinese Cultural Communities and Scenes. In: Hatley B and Hough B (eds) *Performing Contemporary Indonesia. Celebrating Identity, Constructing Community.* Leiden: Brill, pp. 120-146.

Ingold T (2000) *The Perception of the Environment. Essays on Livelihood, Dwelling and Skill.* London: Routledge.

Juris JS (2012) Reflections on #Occupy Everywhere: Social media, public space, and emerging logics of aggregation. *American Anthropologist* 39(2): 259-279.

Juris JS, Ronayne M, Shokooh-Valle F, et al. (2012) Negotiating Power and Difference within the 99%. *Social Movement Studies* 11(3-4): 434-440.

Kouw M and Petersen A (2018) Diplomacy in action: Latourian politics and the Intergovernmental Panel on Climate Change. *Science & Technology Studies* 31(1): 52-68.

Lambek M (2012) Religion and Morality. In: Fassin D (ed) *A Companion to Moral Anthropology.* Malden: Wiley-Blackwell, pp. 341-358.

Lansing SJ (2007) *Priests and Programmers. Technologies of Power in the Engineered Landscape of Bali.* Princeton: Princeton University Press.

Latour B (2005) *Reassembling the Social: An Introduction to Actor-Network-Theory.* Oxford: Oxford University Press.

Latour B (2013) *An Inquiry into Modes of Existence. An Anthropology of the Moderns.* Cambridge: Harvard University Press.

Li TM (2007) *The Will to Improve. Governmentality, Development, and the Practice of Politics.* Durham: Duke University Press.

Lovink G (2011) *Networks Without a Cause. A Critique of Social Media.* Cambridge: Polity Press.

Morrison M (2015) STS and enhancement technologies: a programme for future research. *Science & Technology Studies* 28(2): 3-28.

Niewöhner J, Sørensen E and Beck S (2012) Einleitung. Science and Technology Studies aus sozial- und kulturanthropologischer Perspektive. In: Beck S, Niewöhner J and Sørensen E (eds) *Science and Technology Studies. Eine sozialanthropologische Einführung.* Bielefeld: Transcript, pp. 9-48.

Noble SU (2018) *Algorithms of Oppression. How Search Engines Reinforce Racism.* New York: New York University Press.

Pfaffenberger B (1988) Fetishised Objects and Humanised Nature: Towards an Anthropology of Technology. *Man* 23(2): 236-252.

Picard M (1999) The Discourse of Kebalian: Transcultural Constructions of Balinese Identity. In: Rubinstein R and Connor LH (eds) *Staying Local in the Global Village: Bali in the Twentieth Century*. Honolulu: University of Hawaii Press, pp. 15-49.

Postill J (2016) Freedom Technologists and the Future of Global Justice. *State of Power*: 147-163.

Ramstedt M (2014a) Converging ontologies, flattening of time - Discordant temporality and feeling rules in Bali's new village jurisdictions. In: Stodulka T and Röttger-Rössler B (eds) *Feelings at the Margins: Dealing with Violence, Stigma and Isolation in Indonesia.* Frankfurt am Main: Campus, pp. 53-80.

Ramstedt M (2014b) Discordant temporalities in Bali's new village jurisdictions. *The Journal of Legal Pluralism and Unofficial Law* 46(1): 60-78.

Reuter T (2009) Globalisation and Local Identities: The Rise of New Ethnic and Religious Movements in Post-Suharto Indonesia. *Asian Journal of Social Science* 37: 857-871.

Roth D and Sedana G (2015) Reframing Tri Hita Karana: From 'Balinese Culture' to Politics. *The Asia Pacific Journal of Anthropology* 16(2): 157-175.

Scaramelli C (2019) THE DELTA IS DEAD: Moral Ecologies of Infrastructure in Turkey. *Cultural Anthropology* 34(3): 388-416.

Scaramelli C (2021) *How to Make a Wetland: Water and Moral Ecology in Turkey*. Stanford: Stanford University Press.

Schick L and Winthereik BR (2013) Innovating relations – or why smart grid is not too complex for the public. *Science & Technology Studies* 26(3): 82-102.

Sismondo S (2010) *An Introduction to Science and Technology Studies*. Malden: Wiley-Blackwell.

Sørensen E (2012) Die soziale Konstruktion von Technologie (SCOT). In: Beck S, Niewöhner J and Sørensen E (eds) *Science and Technology Studies. Eine Sozialanthropologische Einführung*. Bielefeld: transcript Verlag, pp. 127-148.

Sprenger G and Großmann K (2018) Plural ecologies in Southeast Asia. *Sojourn* 33(2): ix-xxii.

Tapsell R (2015) Platform convergence in Indonesia: Challenges and opportunities for media freedom. *Convergence* 21(2): 182-197.

Tsing A (2005) *Friction: An Ethnography of Global Connection*. Princeton: Princeton University Press.

Turner V (1967) *The Forest of Symbols: Aspects of Ndembu ritual*. Ithaca: Cornell University Press.

TWBI (n.d.) nusabenoa.com (accessed 17.11.2023, no longer available).

TWBI (n.d., b) http://twbi.co.id/index.php (accessed 17.5.2021; no longer available from 2023).

UNESCO (2012) *Cultural Landscape of Bali Province: the Subak System as a Manifestation of the Tri Hita Karana Philosophy*. Available at: http://whc.unesco.org/en/list/1194/ (accessed 27.2.2017).

Wardana A (2015) Debating spatial governance in the pluralistic institutional and legal setting of Bali. *The Asia Pacific Journal of Anthropology* 16(2): 106-122.

Warren C (1998) Tanah Lot: the cultural and environmental politics of resort development in Bali. In: Hirsch P and Warren C (eds) *The Politics of Environment in Southeast Asia. Resources and Resistance.* London: Routledge, pp. 229-261.

Yearley S (2007) Nature and the environment in science and technology sStudies. In: Hackett EJ, Amsterdamska O, Lynch M, et al. (eds) *The Handbook of Science and Technology Studies*. Cambridge: The MIT Press, pp. 921-947.

Notes

1 In this article, I use the terms 'ethics' and 'morality' interchangeably. For a discussion on possible relationships between the terms see Fassin (2012).

2 For an analysis of the internal differences within stakeholder groups involved in another case in Indonesia see, for example, Bräuchler (2023).

3 For more details on the *adat*/religion rationale in the reclamation case, see Bräuchler (2020).