Resilience

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'Resilience' is becoming a new policy buzzword. The term describes the ability to recover from expected and unexpected situations, stresses, or threats in order to sustain, thrive, and to move on. As a concept and as an approach, it guides people's adaptation, persistence, and response strategies to sustainably cope with challenges of all kinds, such as pandemics, political oppression, or extreme weather events related to climate change. This entry highlights anthropological insights into and theoretical antecedents of resilience. Anthropologists have studied resilience in highly diverse contexts, ranging from cybernetics and systems theory, to the study of disaster, human psychology, science and technology studies, and multispecies research. The notion of resilience keeps being expanded and remains diverse. Theoretically, anthropologists have foregrounded the importance of viewing resilience as a practice and as being situated. They also emphasise the complexity of interactions and processes involved in coping with adversities and they often foreground a relational rather than an individualistic understanding of resilience. Importantly, resilience always includes more-than-human actors such as plants, animals, and technologies. How exactly people are able to become resilient is often determined by structural inequalities, (post-)colonisation and prevailing understandings of how the world ought to be. Anthropological research on resilience is much needed in times of adversity, as technological fixes to planetary threats are insufficient to ensure future wellbeing.

Introduction

Today, the term ‘resilience’ is on everyone's lips. As a policy strategy, it aims to ‘prepare’ communities, cities, regions, and even entire nations to cope with threats such as climate change, financial crises, or pandemics. As a new development buzzword, resilience has slowly replaced the long-cherished term of ‘sustainability’ that had taken over the world of politics and academia in previous decades. But what sorts of ideas are associated with resilience? How is the concept used and what have anthropologists found out when studying it? Looking at the literature, one learns that theories of resilience have been developed in very different research traditions, from ecology to psychology, economics, development studies, international relations, and climate policy. It is mostly through work in climate policy that resilience has become known beyond academic discourse since the 1990s (Wakefield, Grove and Chandler 2020). As a practical and situated feature of sociocultural life, resilience has also gained interest in anthropological research. That said, it has not replaced the adjacent concept of ‘adaptation’, which is an antecedent of resilience and has remained at the centre of much anthropological study. The genealogy presented in this entry blends together thoughts, concepts, and personal experiences related to resilience. It traces one path of the development of the concept, without, however, claiming that it is ‘the only’ path of its genesis.

At its most basic, resilience describes the ability to recover quickly from unexpected shocks and crises

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through, for example, adaptation, resistance, or robustness. One can think of it both as a process and an action, deriving partly from the Latin word *resilire* (*re–salire*) which means to recoil, to leap back.[1] *Resilire*, thus, describes the action of rebounding or swinging back to a stable *status quo* of existence. The underlying idea of responding to outside influence via 'feedback' harkens back to early cybernetics, a field of research that studied 'control and communication' of complex systems, be they biological, ecological, technological, or social (Wiener [1961] 2019). In the field of ecology, the concept of resilience developed prominently in the 1970s. The Canadian ecologist Crawford S. Holling (1973) hallmarked resilience as bound to environmental change. He emphasised the inherent capacities of ecological systems to absorb change, that is, to remain in their original state of functioning despite unexpected threats (Gunderson, Allen and Holling 2010). The concept of 'social-ecological resilience' then understands complex systems as adaptive, persistent, or transformable to their environment. That means that resilience includes adaptability, given that entities are expected to 'bounce back', as well as transformability, when they 'bounce forward' to create a 'fundamentally new social-ecological system' (Folke 2006, 262; Gibson-Graham et al. 2016).

Outside of academia, resilience is especially well known as a policy term that seeks to address the impacts of climate change globally. This is true for resilience programmes of the United Nations Human Settlement Programme, the World Bank, the Asian Development Bank, and of governments and development organisations around the world. Resilience as a policy tool and concept has been often criticised for being overly technocratic and ultimately detached from the socio-cultural specificities of peoples' lives. That said, there have also been resilience interventions in the realm of disaster management and post-conflict settings that paint a less negative picture. Resilience-oriented policies have helped foster the integration of situated knowledge and complex situations into governance and have provided an opportunity to govern complexity locally (Chandler and Reid 2019; Chandler 2018; Chandler 2014a). An example of 'best practice' here is the policy endeavours of international organisations such as the Stockholm Environment Institute[2] that explicitly aim to integrate local knowledge into resilience strategies. The concept can thus make governance more responsive to people's needs, as it foregrounds adaptation and learning from past interventions. It may even serve an 'affirmative biopolitics of adaptation' (Grove 2014, 198) that goes beyond programmes that only superficially help the vulnerable or that even perpetuate neoliberalism and social insecurity.

However, as ways of fostering resilience come often in the form of non-participatory policy interventions, technological fixes, and 'authoritative examinations' (Eriksen 2021), they risk being based on forms of knowledge and visions of the world that are tacitly imbued with deep-rooted power hierarchies and social inequalities. Resilience-oriented policies can thus have their roots in (post-)colonial thought and practice. They often enough maintain prevailing views from countries of the Global North, and they tend to postulate

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resilience as inherently positive (e.g. Ferguson [1994] 2009; Escobar 1995; Bollig 2014), thus risking perpetuating existing inequalities (e.g. Oliver-Smith 2017; Barrios 2016; Hastrup 2009a). This raises the question of who actually gets to participate in the definition, management, and governance of resilience. Given that even in governance theory and practice neither the concept nor its application are unified, the aim to foster communities' capacity to deal with disaster risks often opposes divergent worldviews and ways to realise them (Schuller 2016; Barrios 2017a; Faas 2016).

For example, resilience-based policies presuppose knowledge of the nature of disasters and the likelihood of future shocks. They perpetuate claims of knowing how to 'best' to deal with disasters that are used to exercise power over communities, countries, and regions by framing them as insecure and unable to tackle adversities in their own ways (e.g. Evans and Reid 2014; Eitel 2022b). Given that resilience policies usually adhere to the Sustainable Development Goals, they often foster the well-known and long-entrenched hegemony of existing power systems. They seem to shift responsibilities to subjects 'equally', but in fact disregard their structural oppression and exploitation. Critiques of resilience policies—similar to those of 'sustainability'— note that the regulation of the subject via resilience policies does not come only from the top down (from government to citizens), but that climate responsibilities are distributed in many different ways, for example along aid initiatives or global movements (e.g. Eitel 2022a). Resilience-based policies may also enable the production of a suffering 'other', putting responsibility on the shoulders of those who are not the main producers of climate disasters, for example (cf. Todd 2014).

While anthropological interest in resilience as a policy or an analytic concept is relatively recent, the discipline has long been concerned with the question of human adaptation as a driver of social change (e.g. Barth 1967; Ervin 2015). How societies adapt to their environment, and whether they are thereby capable of dealing with adversity, has been a focus of anthropological research for a long time. Social adaptation theories can thus be seen as the antecedent of today's thinking around resilience. At the same time, adaptation is today understood as an essential feature of resilience.

In anthropology, resilience has developed through three research streams since the 1950s: first, cybernetics created the basis upon which complex systems, be they technical, ecological, social, or psychological, were understood. Cybernetics argued that it was important to think of a circular relationship between units and their 'outer' disturbances. Secondly, research on resilience has drawn from the interdisciplinary study of disasters, which scrutinises human responses to 'catastrophic' events, from research on psychological responses to shocks, and from Indigenous and local practices of resilience. Lastly, as anthropology begins to study the relations between humans and other species, it illustrates that we must pay greater attention to how human and non-human forms of agency intersect.

This history of anthropological research on resilience shows that we may need to widen our scope when it comes to studying the 'subjects' of resilience. Studies of urban resilience that focus on the strategies of

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entire cities to cope with climate shocks run side-by-side with research on multispecies resilience and studies of small-scale and rural communities. Simultaneously, the field of resilience remains interdisciplinary, drawing mainly on ecology (e.g. Folke 2016); human geography (e.g. Coaffee and Lee 2016; Keck and Sakdapolrak 2013; Sakakibara 2017); and international relations (e.g. Chandler 2014a; 2014b; Chandler and Reid 2019). Although the focus of this entry lies with the achievements of anthropological scholarship, these are frequently subject to interdisciplinary influence and contemporary discourse. Ethnographic research, which relies on participant observation, is particularly well placed to uncover situated knowledge and practices of resilience in different times and places. The situated nature of resilience is not just determined by social groups but also derives from specific social and historical contexts and an interplay of human and non-human actors (cf. Haraway 1988).

It is worth mentioning that the study of resilience is more than a theoretical exercise. It is part of 'bringing about [a] transformative epoch via [anthropology's] unique capacity to identify, track, describe, interpret, and communicate the human predicament' (Crate 2011, 188). Studying resilience does not just show that different biologically-, socially-, and culturally-informed practices of adapting and responding to disturbances exist. It also tries to ensure that future social change occurs as a result of a reflective and decolonised way of collaborating across different lifeworlds. In doing so, it systematically takes power asymmetries and their roots into account.

Cybernetic studies of adaptation

Resilience as a concept was strongly influenced by cybernetic thinking, which views the world as a set of interlocking systems that are responsive, adaptive, and related to their environments. Cybernetics, which began to develop in the 1950s as a precursor of systems theory, saw itself as an interdisciplinary effort to capture the complexity of the world through a single 'metalanguage'. Its goal was to create a universal canon of terms and concepts throughout all academic disciplines, aiming to support greater dialogue between them. Cybernetics thus studied technological, ecological, psychological and social systems by using the same terms. Realised as the research field of control and communication theory, cybernetics emphasised the importance of 'feedback mechanisms' (Wiener [1961] 2019, 18). Feedback ensures that any complex system maintains itself by adapting to its environment. 'Systems' were understood to comprise a diversity of 'elements', or components, which together enacted a functional unit that could either be 'simple' and predictable or 'complex' and thus self-organised and unpredictable. Systems were always held to stay in equilibrium, despite 'outer' disturbances. What was astonishingly new and compelling about cybernetics were its attempts to understand such mechanisms of technological, environmental, psychological, and human organisation as non-linear and as being important beyond the individual.

Cybernetics included people from all disciplines, especially from physics, mathematics, biology, medicine, sociology, psychology, and economics as well as anthropologists such as Margaret Mead, Gregory Bateson,

Clyde Kluckhohn, and Roy Rappaport. Cybernetically-informed anthropological theories of adaptation differed from older adaptation theories rooted in the social Darwinian notion of 'survival of the fittest', whose evolutionary conception declared societies successful—in the sense of survival—when they practised the best rational management of resources. Here, adaptation was often considered to be a form of advancement on an evolutionary ladder (e.g. Herzfeld 2006) and the development of cultural practices, such as subsistence activities and rituals, was interpreted as a response to the environment. Cybernetics, on the other hand, focuses on relations between culture and environment as self-regulating and self-maintaining complex systems. In this regard, cybernetics-informed anthropologists were more interested in the ways that systemic adaptation takes place, through acts of communication, under changing environmental conditions. They were less interested in evolutionary hierarchies or single adaptation processes.

Cybernetic thinking was criticised early on for failing to capture 'social reality [which] could never be simulated in all its complexity' (Rodin et al. 1978, 747) and for being too focused on adaptation and 'elements' rather than flesh and blood humans (Geertz [1963] 2000). Yet, many anthropologists were intrigued by the thought of social phenomena as systems, regulated by circular interactions. An awkward example from these times, which also exemplified cybernetics' mathematical and mechanical underpinnings, was the example of a thermostat that regulates itself according to its surroundings. The term 'system' derives from Greek *systēma*, meaning a whole composed of several different members or parts (Liddell and Scott 1940). This fit quite well with the predominant understanding of cultures during the mid-twentieth century, which were deemed to be relatively isolated entities. Margaret Mead's and Gregory Bateson's cybernetics-related work had a tremendous influence on communication science, psychology, and subsequent research on psychological trauma (e.g., Wesley-Esquimax 2007, 2009; Kim et al. 2019). For example, Bateson showed how people suffering from schizophrenia were confronted by the dilemma of a double bind—a phenomenon in which people receive conflicting and paradoxical messages or signals and do not know how to respond to them.

During the sixties, a student of Bateson called Ray A. Rappaport was the first to conduct an encompassing field study of adaptation mechanisms among the Tsembaga Maring, an Indigenous subgroup of Maring-speakers living in the highlands of Papua New Guinea. Rappaport held that cultures were instrumental for the satisfaction of people's needs, be it through religious, economic, or kinship practices. He therefore argued that Tsembaga rituals were not merely expressive, but helped regulate the group's population and their relation to the environment (Rappaport 1968, 1971). His argument was backed by the fact that the Tsembaga engaged in the regular ritualistic slaughter of large parts of their pig populations to offer them to the spirits of their ancestors. Such pig sacrifice was associated with the absence of war and with overcoming illness and injury. It was also regulated by ecological factors such as the availability of pig fodder and the given number of pigs. Ecological factors, Rappaport argued, were thus driving ritual

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activity, which in turn governed peace, war, and human populations.

Consequently, cultures could be seen as systems that self-regulate and adapt to ecological stresses via long-term ritual cycles. In this way, rituals actively reduced the number of possibilities for the system (culture), by limiting the number of fights between different Maring-speaking groups, while ensuring the distribution of surplus pig meat (1971, 60; 1968). In this context, Rappaport defined adaptation as a process 'by which organisms or groups of organisms, through responsive changes in their own states, structures, or compositions, maintain homeostasis in and among themselves' (1971, 60). Adaptation took place through 'enormously complex sets of interlocking feedback loops' (Rappaport 1971, 75, footnote 9). Yet, ritualistic homeostasis (or balance) was absent in increasingly technological societies and feedback loops were eventually in need of being accurately recognised, monitored, or redirected in order to avoid maladaptation. This is not unusual, as a system is always embedded in its wider socio-ecological context, which can either promote or constrain effective coping (Torry 1979).

Rappaport's work raised the question of how exactly adaptation to the environment became part and parcel of people's culture (Steward 1972, 328). Julian Steward demonstrated that cultural change is not just dependent on adaptation practices that emerge, for example, through ritual activity, but also on knowledge and technologies that social groups acquire over time. Thus, Steward, who is also known as the founder of the field of 'cultural ecology', argued that arid climates and a need for irrigation tended to lead to increased social stratification and, eventually to the development of the state. Environmental adaptation, according to Steward, ultimately resulted in stable 'core features' of different cultures. What Rappaport and Stewart share with much early anthropological work on adaptation is the argument that humans adapted to ecological adversities in highly complex and recursive ways, ultimately to ensure the survival of the community as a whole. Second, cybernetically-informed theories of adaptation focused on how people maintain or reverse states of equilibrium that give different cultures their unique 'core' characteristics.

Eventually, the early cybernetics-informed adaptation studies were mainly criticised for assuming a stable state of equilibrium to which complex systems automatically bounce back after environmental disturbances. Holling (1973), for example, pointed out that socio-ecological stability is rather dynamic as it maintains the different properties of systems that enable survival. These properties, including stability, variability, persistence, or resistance, may change in different ways and times to maintain other properties. One such property that is of special interest is resilience, a 'measure of persistence' and the 'ability to absorb change and disturbance' (Holling 1973, 14). Interestingly, resilience can be very high *because* of the instability of an overall system. For example, the budworm, i.e. a common pest on all kinds of crops, was so persistent in Canada because its population was able to dissolve into smaller parts during disturbances, before re-building in even more adaptive ways than previously. Contrary to Rappaport, who saw homeostatic stability as a desired aim of adaptation after disturbances, Holling understood stability and resilience as distinct from each other and adaptation as one part of resilience. Anthropological insights

that communities tend to change dynamically over time further contradicted the assumption of a prior state of stability to which communities are thought to leap back after an environmental shock. The obvious pitfall in considering the 'adaptive capacities' of communities is thus to assume from the start that their change serves a certain purpose.

Cybernetics scholarship was also criticised for perceiving cultures as systems that automatically remove marginalised groups from history. Indeed, analysts themselves may contribute to such processes as 'the actual consequences of their own politics of representation' (Blaser 2009, 881). Cybernetics often seemed one-dimensional and apolitical because it represented the interests of only one, usually dominant, group and did not take cultural diversity sufficiently into account (e.g. Mandler 2009; Fabian [1983] 2002). Its endeavour to work with a metalanguage and the idea of 'mechanisms' that could be found everywhere eventually failed as its findings were hard to generalise. Comparing the organisation and communication of ants with that of Indigenous communities or mechanical-electrical system, for example, meant radically reducing the complexity of humans, non-human life forms, and objects under study. Mathematical models that were frequently used to measure and analyse situations could neither sufficiently illustrate nor anticipate how environmental and social processes interacted (Vayda and McCay 1975).

On the upside, cybernetics was one of the first truly interdisciplinary research fields, pre-figuring contemporary game theory, new materialism, systems theory, and much psychological and cognitive work (e.g., Maturana and Varela 1987). However, its failures may be why cybernetically-informed anthropological studies have been largely neglected, even though they contributed significantly to the further development of environmental and ecological anthropology (Hagner, Hörl and Pias 2008). Its approaches to adaptation and resilience assumed a relatively stark dichotomy between systems and their environment, as was common in much of the twentieth century, and one of its main controversies lay in whether nature or culture determined socio-cultural behaviour. As anthropologists learned that cultures were less and less 'closed entities' (if ever they had been), they shifted their focus from the question of 'how' adaptation works in a scheme of sequential cultural development toward the question of 'to/for what' and 'for whom' it works. Such questions were investigated in great depth in the interdisciplinary research field of disaster studies that began to develop in particular during the 1970s.

Resilience and disaster studies

Contemporary work on resilience is greatly inspired by the interdisciplinary research on disasters. Here disasters, risks, and catastrophes tend to be understood as part of larger social and historical processes that reveal certain groups to be more vulnerable than others (e.g. Faas 2016). The anthropologist Roberto E. Barrios, for example, defines catastrophes as

> the end result of historical processes by which human practices enhance the materially destructive

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> and socially disruptive capacities of geophysical phenomena, technological malfunctions, and communicable diseases and inequitably distribute disaster risk according to lines of gender, race, class, and ethnicity (2017b, 151).

In this sense, disasters are not isolated events but socio-material phenomena that result from larger and longer processes such as the Industrial Revolution, the rise of capitalism, neoliberalism, or (post-)colonialism (e.g. Barrios 2016; Oliver-Smith 2016, 2017; Schuller and Button 2020; Hsu, Howitt and Miller 2015). Anthropological research on disaster response thus focuses on how vulnerability is produced in the first place, and how this vulnerability interacts with disaster risk reduction, response, recovery, and relief (Oliver-Smith and Hoffman [1999] 2020; Hoffman 2017). It has shown that top-down resilience measures can reify a moral canon that defines what and who is worthy to be considered to survive in the Anthropocene. During post-earthquake reconstruction in Haiti, for instance, the NGO-run humanitarian aid system was based on a (post-)colonial politics of vulnerability that portrays people and entire nations as victims in order to legitimise a 'lack of resilience' that requires action (Schuller 2016, see also Evans and Reid 2014).

Resilience and vulnerability thus often work together, as vulnerability refers to 'the characteristics of a person or group and their situation that influence their capacity to anticipate, cope with, resist and recover from the impact of a natural hazard' (Wisner et al. 2004, 11). When China's Sichuan province was hit by a devastating earthquake in 2008, for example, government recovery plans for the Qiang Indigenous community helped perpetuate their political subordination, turning people into 'passive gift recipients' (Zhang 2016, 92). The management of disasters by government agencies and recovery experts can thus reinforce vulnerabilities and even create new ones. Moreover, as US government neglect in the recovery of New Orleans from Hurricane Katrina has shown, communities also need to adapt emotionally to catastrophes and recovery programmes. Feelings are critical to people's experiences of both disaster and recovery, but are all too often left out of planned recovery and post-disaster programs (Barrios 2015, 4), which thereby, again, risks increasing vulnerability.

Neoliberalism plays an important role in co-constructing vulnerability through disaster management. Environmental managers and government actors in a climate vulnerable coastal area in Maryland, for example, considered inhabitants of the Deal Island Peninsula communities to be 'liabilities' rather than people maintaining livelihoods in their historic homeland (Johnson et al. 2017; Johnson 2016). As a result of 'disaster capitalism', in which environmental crises are used to serve the interests of capital (Faas 2018, 32; Klein 2007), these 'liabilities' are subject to programmes that promote entrepreneurship as successful disaster response (Faas 2018). The production of capitalist subjects in the form of entrepreneurs, or 'petit capitalists', exposes the limits of much contemporary institutional thinking, which remains unable to go beyond neoliberal disaster response. Capitalist subjects are here produced along with disaster capitalism through an initiation into business management that is intended to contribute to regional recovery.

Ultimately, dominant interests provoke visions of the future and ambitions that appear to be local but are imbued with the goals of the neoliberal state. Resilience policies can thus reinforce and perpetuate the vulnerability of groups whilst simultaneously maintaining the very same capitalist dynamics that are responsible for anthropogenic climate change and socio-ecological disasters (cf. Wakefield, Grove and Chandler 2020)

Studying the concrete impacts that resilience policies have on particular sites draws attention to the questions: 'When is resilience achieved for whom?' and 'To what extent is it achieved?' Ethnographic studies have answered these questions by providing insights into lived experiences, strategies, and narratives that circulate 'on the ground' and are used, changed, and adapted in relation to environmental changes that require a response (Davidson-Hunt and Berkes 2006, 69; Ingold 2011). Analysing local responses offers fruitful and complementary perspectives to prevailing normative and development-informed visions of resilience (e.g., Rival 2009; Hastrup 2009b; Vium 2009). In the Pacific, for example, people's political resistance has been shown to be a form of resilience as well as a way of contesting state-led resilience strategies (Dousset and Nayral 2019). Ethnographic research in two East African communities has further identified response diversity as a key driver of resilience. The Ngisonyoka, nomadic herders in Africa's Great Rift Valley, for example, respond to social and environmental threats through a variety of mechanisms, including group mobility, livestock diversification, and the creation of broad social networks. This variety of activities drives response efficacy, allows social groups to persist, and enables them to limit their impact on the environment (Leslie and McCabe 2013, 128). Lived resilience thus seems to require respect for a variety of practices and voices of people living in climate-prone areas (Barrios 2016).

Resilience, therefore, is not static but is rather a result of social learning from previous crises that may become integral to patterns of cultural knowledge. Coping with an individual hazard or disaster, on the other hand, implies short-term decisions in (relatively) new situations. These may or may not be adopted into a cultural canon and manifested in long-term adaptation strategies (Smith 2017; Bennett 1995). Adapting *to* something or somebody is tangible both in daily practice and in the space in which it is embedded, for example when regions face severe droughts and dwellers alter their practices of wayfinding through these changed landscapes (Vium 2009). Adapting *for* something or somebody can imply a mode of care for another future, and care for individual or collective well-being today. Let us now turn toward the small field of anthropological research on psychological resilience.

Psychological resilience

How people cope with disasters and crises at a psychological level is a subject of study in interdisciplinary research on psychological resilience, often with roots in Gregory Bateson's ideas of the mind ([1972] 2000; [1979] 2002), and in development psychology (e.g., Garmezy 1971, 1991). Psychologists deal with

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resilience as a personal defence mechanism that can be strengthened and enhanced. The relatively small field of the anthropology of psychological resilience evolved[10], concentrating on people's individual life trajectories and on the way communities cultivate resilience as a means to respond more or less successfully to adversities (Wexler 2014, Wexler et al. 2014; Zraly et al. 2011; Obrist and Büchi 2008). These studies often include a focus on political and economic forces of oppression and violence (e.g. Cox 2015; Eggerman and Panter-Brick 2010; Zraly and Nyirazinyoye 2010).

Anthropological scholarship has unveiled, moreover, the insight that resilience in daily life is often reliant upon broader collective memories and histories (e.g. Ungar 2008; Foxen 2010; Lewis 2013, 2018, 2019; Kirmayer et al. 2011; Mullings and Wali 2001). For example, comparative work on trauma diagnosis and treatment among survivors of the 2006 July War in Lebanon and that of Syrian refugees post-2011 shows that suffering is more than just an internalised psychic condition. Instead, suffering can be understood as a constantly shifting subject position in a social context like Lebanon, where violence and aid economies continuously change its nature. Here, the local concept *sumud*, which can be translated as psycho-political steadfastness, patience, and resistance, reflects the social contingency of suffering and resilience, as *sumud* is subject to constant politically-inflected re-interpretation. Indeed, *sumud* can be interpreted as both a form of psychological resilience and 'a postcolonial tool of resistance, a political movement and an everyday embodied practice' (Moghnieh 2021, 6). In Afghanistan, resilience is also collectively enacted, and in this case bound to values of living an honourable life. Cultural values such as kinship and family honour are essential to maintain 'a sense of order, hope, and meaning to life' (Panter-Brick 2014, 442; Eggerman and Panter-Brick 2010). Anthropological studies have thus shown that resilience, tied to wellbeing and health, is undergirded by processes that are far-reaching, harking back to long-gone periods of oppression, such as colonialism, whilst also taking current power structures into account.

In this way, resilience can even be grounded in toxic entanglements between people and chronic economic and political instability. Residents of Mexico City's working class neighbourhood Colonia Periférico, for example, have been shown to be particularly resilient and maintain power as they decide what 'outer' disturbance gets 'inside' the body and the mind (Roberts 2017). They may decide to consume sugary and highly processed sodas, some of them traffic drugs and consume marijuana and a glue solvent called *activo*, and all of them live with the stench of the neighbourhood's air pollution. Health workers consider the local consumption of toxic substances to signal the absence of resilience. To them, resilience is grounded in the impermeability of the body. Yet, Elizabeth Roberts (2017) provides an alternative interpretation, showing that people's toxic entanglements with their environment provides them with moments of social pleasure and care whilst keeping health workers and the police at bay. The neighbourhood's reliance on toxic consumption may thus be the source of its resilience.

The link between trauma and resilience has been of particular interest to anthropologists. The study of

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people in post-apartheid Cape Town and in Brazilian favelas has shown that people are capable of much higher degrees of resilience than citizens of the affluent parts of the Global North may imagine (Scheper-Hughes 2008). People are capable of resisting even chronic 'states of emergency' and the resulting traumas through survival strategies that include developing values such as strength, toughness, asceticism, stoicism, and even the postponement of motherly love until children are likely to survive (Scheper-Hughes 2008, 25). Our psychological response to too much death and loss may be that of 'patient resignation', subduing both outrage and deep sorrow over human tragedy. In this way, human frailty is compounded by a 'possibly even bio-evolutionarily derived, certainly historically situated, and culturally elaborated capacity for resilience' (Scheper-Hughes 2008, 52). It seems that those who suffer from post-traumatic stress disorder and who live through constant crises and terror may normalise suffering as part of building resilience (Scheper-Hughes 2008, 52).

Laying a cornerstone for an understanding of resilience as a feature of daily life based on cultural values and long histories of suffering, many ethnographic studies shifted the attention toward structural inequalities that determine who 'is required to survive and even thrive' (Scheper-Hughes 2008, 37) in times of catastrophic events. The idea that resilience is manifold is also demonstrated by a recent study of cancer patients in Soweto, South Africa. The study focuses on 'idioms of resilience', understood as the 'means of experiencing and expressing positive adaptation and well-being in the midst of adversity' (Kim et al. 2019, 1). It reveals that idioms of resilience in crisis-ridden Soweto may result in different forms of acceptance (or *ukwamukela* in isiZulu). Such acceptance allows people to shift their attention away from their own problems to focus on family, neighbours, and religious life (Kim et al. 2019).

In many of the examples above, resilience is more than a result of historical contingencies. It needs to be understood as a capacity to continue life (Wesley-Esquimaux 2007, 2009). In studying First Nations people in the Americas, the First Nation woman Cynthia Wesley-Equimaux notes that colonisation, discrimination, and marginalisation resulted in the 'intergenerational transmission of historic trauma' (Wesley-Esquimaux and Smolewski 2004, iii). These traumatic recollections entered people's collective memory and were enacted through cultural symbols, rituals, and habits, for example through stories about terror. Eventually, the traumatic experiences became culturally embedded, resulting in repressed feelings of emptiness, depression, and numbness, which in turn led to a gradual dissolution of people's collective identity. First Nation women in particular struggle with these negative, intergenerational experiences as they still strive to do good for their families and communities.

Local knowledge that reflects social realities and historical contingencies provide a more positive angle of viewing resilience as empowerment. Rather than resilience, Wesley-Equimaux (2009, 26) calls for an emphasis on *resiliency*, meaning to 'rebound from challenges one encounters in daily life'. Resiliency refers here to a form of flexibility that enables the reframing of trauma and life narratives by situating them in sociocultural contexts so as to make them 're-readable'. Emphasising the positive forces of the term,

resiliency avoids seeing people only as 'suffering subjects' and as related to deficits but rather as potentially empowering. This approach chimes with what the Māori scholar Mason Durie (2006, 8) claims to be a form of 'Indigenous resilience', that is, 'a reflection of an innate determination by Indigenous peoples to succeed'. His take on resilience provides a viewpoint that does not depict Indigenous people as suffering 'others' or negating their historic disadvantages, but that 'allows the Indigenous challenge to be reconfigured as a search for success rather than an explanation of failure' (2006, 8). Here and in Wesley-Equimaux's example, resilience and resiliency have positive connotations, focusing on success, strengths, and empowerment that enable social transformations toward healthier and better futures.

In sum, anthropological research has shown that the ordinariness of suffering cannot be adequately understood without taking into account associated cognitive processes, collective experiences, and traumatic embodiments (cf. Kim et al. 2019). Studying resilience can foreground suffering, but it may also illustrate how humans create 'well-being rather than survival, salutogenesis rather than pathology, and the promotion of human dignity rather than mere alleviation of human misery' (Panter-Brick 2014, 438). Because psychological resilience is a necessary precondition for groups to cope well with disturbances, stresses, and violent contingencies such as trauma, it fruitfully ties in with other forms of resilience research (cf. Bollig 2014). However, looking at human responses and adaptation processes is only one way to understand how people and communities respond to threats. A more removed anthropological approach to resilience, which sees communities neither moving 'back' nor 'forward' to a state of stability, focuses on how prevailing normative notions of resilience themselves are brought about and circulate (e.g. Rose and Lentzos 2017).

More-than-human resilience

The divide between nature and culture played a crucial role in the development of early anthropological theories of adaptation. Cybernetic thinking about enclosed elements and systems that were held to be distinct from their outer environments frequently opposed cultures to outside nature. Yet, recent scholarship has demonstrated that the environment is also produced, shaped, and enacted by culture (e.g., Scoones 1999; Ingold 1990; Escobar 1999). Culture and the environment always reproduce each other, for example when biotechnology enables the creation of 'new' versions of nature that in turn impact sociocultural processes (Scoones 1999). Given that authors such as Bruno Latour (1993) and Donna J. Haraway (1987) have established that nature and culture are always intertwined as 'naturecultures', anthropology has had to rethink the notion of resilience by asking for whom nature exists (Haraway 1987) and through which worldviews it is enacted (Blaser 2013; Jensen 2015).

By focusing on the production of knowledge and technology, the interdisciplinary research field of science and technology studies (STS) questions, for example, how knowledge about flood resilience results from the interplay of many kinds of human and non-human actors, such as mangroves and satellite images. This

connectedness of actors across boundaries of nature and culture means that multispecies studies of resilience have become more important. Ethnographic research now focuses on humans as much as animals, plants, and technologies and their interferences with each other to understand how resilience is enacted (e.g., Chao 2022; Willerslev 2009). The indigenous Yanyuwa of Northern Australia, for example, remain resilient in the face of postcolonial and other forms of violence by building a myriad of relationships. They 'keep company' with the land, with non-human species, and with their ancestors to deal with adversity (Kearney 2022). They create resilience by practising 'a multidimensional art of relating', despite postcolonial and on-going violence. The Iñupiat of Arctic Alaska are also able to survive in a difficult environment marked by climate change through resiliency that is grounded in deep knowledge about entities and species on land, in water, and in the sky (Sakakibara 2020). They have developed an intimate, spiritual, and intense relationship with bowhead whales, mythical creatures that have a decisive impact on their social lives. Storytelling, dancing, drumming, and political engagement linked to the whales all help the Iñupiat foster notions of reciprocity and respect and respond to climate change in a constructive manner (see also Herman 2016).

Focusing on ontologies is particularly fruitful when studying resilience, whether these are culturally specific and relational, as in the Yanyuwa and the Iñupiat examples above, or more practical in nature (Gad, Jensen and Winthereik 2015; Jensen 2021). The practical ontologies of floods, for instance, uncovers different worldviews by different actors at stake in flood protection: policy actors may perceive flood protection as an opportunity to form urban space and implement technological mega-projects; fish may identify it as a danger given that submerging the sediment that causes floods reduces their living space; while dwellers of the affected region may consider it as a mundane situation, and nothing to get stressed about.

STS-inspired anthropological scholarship has illuminated that technologies based on a 'modern' ontology marked by a belief in progress and the human domination of nature play a significant role in how resilience is imagined and implemented. This ontology lies at the heart of technological fixes as the single solution to combat climate change. In south-west Bangladesh, for example, climate-smart houses are meant to protect inhabitants against cyclones and flooding while supporting an efficient use of water and energy (Cons 2018). While such techno-fixes turn out to be inherently exclusionary for most of the population, they tend to gain praise in policy circles around the world. In this instance, resilience policies produce new patterns of exploitation and expropriation by holding locals in climate-insecure places (Cons 2021).

Conceiving of resilience as a more-than-human endeavour, and paying close attention to spatially and temporally wide-ranging relationships, enables researchers to see the concept in a new light, without thereby losing sight of important existing inequalities and discriminations along the lines of class and ethnic groups. At the same time, anthropological scholarship demonstrates 'alternative' ways of dealing with crises that are either based on long-established relationships to the environment, histories of

oppression and suffering, or on approved methods for coping with crises. The question of whether a community 'possesses' or 'obtains the capacity' for resilience often gives way to deciphering multiple existing modes of resiliency. Given that the impacts of climate change, even if not locally caused, are unfolding locally, more-than-human resilience must be also considered in relation to land, heritage, and experiences of oppression and discrimination.

Conclusion

Contemporary resilience research is rooted in the fields of cybernetics, disaster studies, and psychology as well as in STS and multispecies research. Anthropologists understand resilience primarily relationally as a practice and as historically and culturally situated. Much ethnographic work on resilience shows that it is dynamic in character and multiple in form, as well as being shaped by constantly shifting socio-material circumstances and multiple power constellations.

Studies of resilience based on anthropological research have provided significant insights for understanding socio-ecological phenomena and human-environment relationships. They show that people's everyday coping practices can transform into adaptive strategies developed in relation to highly specific environmental situations. They also foreground the diversity of thoughts, worldviews, rituals, relations, and practical skills required by communities to deal with hazards, creeping environmental change, and psychological disasters. Ethnographic studies of lived resilience tend to challenge prevailing notions of how to deal with adversities by including alternative, situated definitions to the vocabulary of anthropogenic disaster. Examining lived resilience should be as much the focus of future study as examining prevailing knowledge formations that emerge through resilience policies or prevention and recovery programs.

Anthropology's critical stance *vis-à-vis* state- and market-friendly resilience policies and programs stems from the insight that local resilience practices emerge as much in reaction to shocks and 'slow disasters', as they do in response to political and socioeconomic interventions along hegemonic and postcolonial lines. Everyday resilience reveals systematic subjugation and discrimination, for example through disaster aid programs that perpetuate vulnerability. It points to imposed politics of vulnerability, disaster capitalism, and invisible violence that run along demarcation lines of race, gender, class, and ethnicity. In this way, everyday resilience frequently includes and creates more-than-human lifeworlds that span across multiple timeframes, spaces, and sociocultural areas.

One question for future research may then be not what resilience *is*, but when and how it is socioculturally produced. To what does it refer—as a way of dealing with historical legacies, current adversities, and future uncertainties–and for what is it used? Is resilience built to deal with unexpected shocks (e.g., earthquakes), expected situations (e.g., droughts or floods), or also potential futures (e.g., hurricanes or pandemics)? Is resilience capable of coping with perfectly unexpected disasters that might 'break in'?

These are questions that need to be further explored, accompanied by an interest in practices of care and relationality that benefit not only human beings but also their companion species and wider environments. Anthropology shows that resilience is not inherently grounded in deficits and suffering but that it also illustrates an astounding degree of agency and creativity that humans and nonhumans who strive to remain resilient display in the process. As such, the study of resilience has the potential to unpack multiple forms of responses to adversity. Something we can all learn from.

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[3] For an extensive overview, see Panter-Brick (2014).

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