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Activating transrelational ethnography. Interweaves of the field in the process of energy transition

Uruchamiając etnografię transrelacyjną. Splatanie terenu w procesie transformacji energetycznej

The aim of this article is to report the grassroots view of the aspects of arranging the field: the interweaves of a field in the process of transition. Although this view shall out of necessity be limited to only a few themes, its aim is highlight the significance and usefulness of the transrelational perspective in researching its complex arrangement. In this, I share the assessment of Harold Wilhite, who nearly two decades ago insisted that energy needs anthropology (Wilhite 2005: 1–2), and the perception that energy transition is also an anthropological issue and therefore a domain "in which the forms and values of individual and collective existence are problematized or at stake, in the sense that they are subject to technological, political, and ethical reflection and intervention" (Collier, Ong 2005: 4). In a situation when a researcher aims to understand and diagnose the complex relationships and conditionings which together constitute the energy transition, anthropology increasingly often turns out to be a lens which makes it possible to perceive new dimensions of this process and thus it helps to transform the debate or direct it to less obvious paths. In addition, anthropology helps to develop criticism focused on problematising the existing diagnoses and assertions concerning the course of decarbonisation in its ecological and social dimensions.

The climate crisis, and the desire to study the local, grassroots ways of understating and experiencing this phenomenon, led me towards researching the broad field of energy transition in the Lower Silesia voivodeship, in the area of the Turów mining and power complex. Linked with this field of research were certain observations and intuitions concerning the emerging framework of the "anthropology of the actual" (Rabinow 2003), which is increasingly often oriented towards the climate- and environment-related aspects of the human beings' operation in various parts of the world (Eriksen 2016; Nuttall 2016). The gradual recognition of a variety of perspectives and methodological approaches arrived at in such currents of thought as the anthropology of climate and environment, environmental studies (Evans, Abrahamse 2009; O'Reilly, Isenhour, McElwee Orlove 2020:13–29) or posthumanism brings to the fore an urgent need to take under consideration the fact that the human race not an autonomic entity detached from its environment but that it functions as the crucial reference point towards the ecosystem, and thus that the ecosystem, "when damaged, negatively affects the human condition as well" (Ferrando 2019: 22; cf. Ferrando 2016). These perspectives and approaches have for some time been affecting my own anthropological imagination, shaping my manner of experiencing the reality as well as the perspectives through which I observe – and see anew, differently than I have heretofore – various aspects of social life. The feeling is as if some aspects of reality acquired new shapes, becoming even more relational and much more clearly interwoven.

Interweave I. The context of mineral extraction – the research context

Living in late capitalism, in the era of climate crisis, is connected with functioning in a world governed by the political, economic and ecologic answers to its conditions. Regardless of whether this is the reality of urban metropolises or small rural settlements, the communities that inhabit them experience, in many different ways, the destabilisation of everyday life inherent in the process. Carbon transition is one of the global processes currently underway, in many local variants, in various corners of the world (Pörtner et al. 2022). In this sense, it could be called egalitarian; which does not mean that it is everywhere and always fair or sensibly planned. Energy – usually an abstract, indeterminately used concept – is not only the primary driving force of modern economies, enabling their development and postulated growth (and therefore one of the most desirable states of the economy in late capitalism), but it is also an invisible resource enabling modern societies – perhaps not all, but most of them – to live in comfort and freely exercise such high-energy habits as transport, travel, heating systems, food and clothing, the production of which involves the consumption of significant energy resources (Wilhite 2016). It is also a factor of geopolitical importance,

one that underpins energy security and thus has a decisive impact on the stability of political and economic relations (Boyer 2019). Energy, or the shortage of it, affects the wellbeing of people around the world, as it conditions peace or leads to conflict and war. It is the essence of late capitalism, a factor with multidimensional causality (Salleh 2010: 118–143).

An inquiry into the process of reorienting European and, more broadly, global policy towards a systematic shift away from fossil fuels towards the introduction and development of zero-carbon policies and decarbonisation practices (cf. *The European Green Deal* 2019) has for some time been an urgent challenge not only for economic sciences supported by biological, technological, climatological or geological perspectives. Attempts at examining various aspects related to the intertwining of energy, politics, environment and society are increasingly being undertaken within the social sciences and humanities (Lolum, Abram, Ortar 2021). Related to this is the inquiry into a variety of geographical and economic contexts that shape current energy policies (Strauss, Rupp, Love 2013), as well as the desire to understand how energy management at different scales and dimensions intrudes into social and cultural orders (Howe 2019; Smith, Hige 2017). Both of these aspects represent vast and fractious areas of anthropological inquiry, directing the attention of scholars involved in the research current of energy anthropology towards local phenomena and processes that often escape the bird's-eye view conducive to general recognitions and universalising conclusions (Hornborg 2019).

In anthropological, ecologically involved cognitive perspectives, the environment is not only a welcoming space for human functioning but, increasingly, areas transformed and devastated by humans: contaminated water and soil, polluted air, energyscapes, industrial and postindustrial landscapes (Fortun 2001). All these spaces constitute potential research fields within which anthropological *praxis* is developed amidst practices from the orders of nature, culture, economics and technology. From the standpoint of these research currents, "industrial unrest" (Penty 2018) is noted and the abuse of nature is perceived as a particular example of industrial exploitation (Moore 2016).

Scholars working within this intellectual current do not stop at diagnosing the socio-cultural, economic, ecological and political contexts of energy production and distribution; they turn their attention to the connections between power and capital, the development strategies of the mining industry, and the socio-cultural conflicts involved therein. They also identify the weaknesses and illusions in the analyses of decarbonisation and low-carbon policies in the context of environmentally attuned capitalism (Wilhite 2016). Transrelational ethnography proves to be a valuable complement to this perspective, making it possible to see the multiplicity of relations and connections that stabilise (or destabilise) the explored field, throwing the researcher off the beaten path of analyses and conceptualisations.

Interweave II. Transrelational ethnography

My interest in the process of energy transition that begins around the Turów complex and covers a variety scales and temporalities stems from the desire and need to incorporate the perspectives, tools and research methods of anthropology into the development of social theory in the context of the climate and environmental crisis. Related to this is the aspiration to discover the environmental and economic problems arising from the development of mining industries, and to impose cultural and social senses on those problems. The spaces of Upper Lusatia take on the form of (post-)industrial assemblages "created by material expressions of carbon-based energy systems and the institutional and cultural practices attached to them", which "are shaped at the intersection of infrastructures, technologies, the built environment and various social, cultural and political regimes that govern them" (Haarstad, Wanvik 2016: 433). The perspective adopted herein involves a critique of the dominant perception of global environmental history, which is not grounded in a tradition of links to social theory, with the result that social issues are not always seen as relevant to explaining environmental change (Keskitalo 2022). This is because in an anthropological perspective, nature and society are inextricably intertwined in human bodies, in man-made landscapes, and in technologies (Hornborg 2016: 58).

To me, an entry – understood empirically and conceptually, as well as affectively – into a field perceived in this way very quickly turned out to be an experience of functioning in a *sui generis* laboratory, where not only the limits of representation, or the meanings of certain concepts and theoretical categories, but also the methods, techniques and research tools set in motion in research practices were reviewed and put to the test. It was a field where certain concepts clarified and gained clarity, becoming definite in different contexts and uses.

In identifying and thickening the field, I do not focus exclusively on researching the process of decarbonisation and creating landscapes of the region's post-coal future (cf. Majbroda 2022). This is because I am interested not only in the ways in which the local community experiences the process of transition, but also in how the "life over coal" looks like today; how the coexistence is developing between people and matter, the raw materials, the mining and energy complex, the technology harnessed by the mining industry. I also look at how local cultural landscapes are being transformed, taking the shape of anthropogenically arranged industrial spaces and post-industrial landscapes, expropriated places, spaces empty of people and spaces undergoing a *sui generis* reclamation process involving the proliferation of plants on the land left behind after the coal had been extracted.

I advocate a way of navigating the field, and engaging in it, which does not rely on mechanically reproducing a method understood as a specific sequence of actions. Thus, I understand the practice of anthropology as an active, reflexive and relational

process of weaving together the various elements of the increasingly dense field. This process is, to a large extent, experiential in nature and empirical at root, but it remains closely related to conceptual work, involving an effort of imagination in perceiving the presence in the field of the human/non-human elements that jointly create the area of research. Already the initial empirical research, which I started in April 2021 – the first visits to the field, following people, stories, emotions, moving along the trail of the coal deposits, the many interviews conducted and the long hours of thick participation (Samudra 2008) in the life of the local community – encouraged me to consider the processuality and the multi-layered nature of the unready field in a mode of thinking that was self-reflective and critical at the same time.

In my view, the perception of transrelational ethnography as a critically oriented cognitive perspective that draws abundantly on relational currents, new materialisms and, to some extent, post-humanism, is a response to the discipline's receptiveness towards epistemological openness (Fortun 2016); a receptiveness that stems from the need to name that which binds together the multi-sited, multi-sourced, multi-subjective and multi-situational nature of cognition. Yet regardless of how this perspective is named, what matters is what lies at its source, namely, the desire to note the multi-source sensibility of field research (cf. Sunder Rajan 2021: 32) and the necessity not to overlook the varying perspectives of multiple subjects in the face of transition in the course of multi-situated cognition (cf. Sunder Rajan 2021).

Transrelational ethnography, similarly to the already mentioned category of assemblage (Manuel DeLanda 2006; Bennett 2010: 20–38), is not solely a theoretical proposal, since it has an analytical potential and, in my opinion, can constitute a useful lens for adjusting research practices by affecting methodological decisions; I have written about this in more detail elsewhere (Majbroda 2019: 133–164). Recognising the phenomena of the more-than-social reality as assemblages, and thus seeing them as emergent heterogeneous configurations of many factors and actants, requires us to transcend research practices focused solely on the mobility, as much that of the researchers as of the migrating research fields, in order to meet the challenge of understanding the analysed phenomena not only in their dynamics, but also in their interwoven and complicated character. As rightly noted by the anthropologist Caroline Gatt: "The life experiences of such people challenge the immobility and boundedness demanded by the view of the world as a mosaic of geographically delineated cultural wholes" (Gatt 2009: 108). The practices of mobility and "following the research themes" lie at the foundation of the multi-sited ethnography proposed by George Marcus (1995), which encourages reinterpretative transgressions, also in the context of transformations. Transrelational ethnography can thus be seen as a proposal to broaden both the anthropological *imaginarium* and the *praxis* of the discipline in such a way as to – in keeping with Marcus's proposals – follow the people, material objects, environmental and technological factors, processes, discourses, metaphors, emotions,

experiences, categories and tools (Marcus 1995: 95–96). This, however, must be done without focusing on the physical and conceptual migration of the phenomena under research, but also on their complexity in all their contexts and conditionings. It is also a proposal to focus attention on the interwoven architecture of processes and phenomena, encouraging the anthropologist to untangle them in search of causes and patterns of interweaves, and to weave them back again into yet untried configurations.

This leads to the reflection that neither a "multi-site" nor a "single-site" perspective and practice make it possible to devise research that would have the potential to capture the complex relationships that connect people to landscape, matter and technology in the environments in which they live. This is because these are not established, ready-to-occupy places, but spaces that are created in interactions and experiences that are not only social.

Related to the practice of transrelational ethnography is the understanding of unready sites in terms of laboratories in motion. Interestingly, by thinking in terms of laboratories, we activate practices which are often unsophisticated, commonplace, but which turn out to be useful in dealing with the complexity of reality, such as, for example, experiencing, observing, noting, discovering, thinking, comparing, talking, trying, moving, getting an idea, verifying, reflecting, analysing, interpreting, ascertaining, accompanying someone or something, participating, understanding, acting, gaining awareness, resigning from acting (cf. Majbroda 2019: 106).

In a laboratory modus operandi (Kil, Małczyński, Wolska 2017), I do not assume that the field consists of specific, closed domains which are discovered and named as the researcher's presence in that field is getting more dense. I recognise that the connections between people, energy, technology, matter and environment that I find in the field are deeply relational. This does not, however, result in the "naturalising" of what is technical or industrial, or in placing the environment in technological orders; instead, it leads to a cognitive openness to the inevitable interdependencies and relations between these domains. Moreover, their ontologies are not assumed *a prori*, but are clarified during conversations, observed actions and behaviours, in the course of juxtaposing/interweaving them with political discourses, strategic documents on industrial or economic development, and media messages, which all coexist in the public space.

Interweave III. The Turów mining and energy complex in the process of transition

The landscapes of Upper Lusatia function as complex assemblages linking people, the environment, lignite, and the material manifestations of energy systems associated with the extraction of this raw material. For more than 70 years, the Turów mining and energy complex has been an extremely important element of the commune of

Bogatynia in the Lower Silesia voivodeship, creating there a landscape that is anthropogenic, i.e. altered by man, and also what is known as a disturbed landscape, one altered in consequence of high CO2 emissions, air pollution, soil contamination and water problems. Today, the spaces of Upper Lusatia include also deserted villages, where nature has made itself at home, encroaching on the abandoned houses and entwining the ruins of buildings – remnants of the former life in these villages – with vegetation. The "mining landscape" is the result of both the development of the mining industry and the expansion of its infrastructure, which are clearly visible in this region.

Beginning in the 1960s, with the expansion of the lignite mine and the construction of the power plant fuelled by lignite, the spaces of many towns and villages in the area known as the Turoszów Sack (Polish: Worek Turoszowski, the name deriving from its topographical shape) have been transformed as a result of their proximity to the mine's open pit or external dump (Dobrzyński, Skrzęta 1998). I perceive the coal transition beginning in the area around the mine and the power plant as a local case demonstrating the globally, transculturally and regionally conditioned process of transforming fossil energy production towards renewable energy; a process shaped by the decisions of investors and companies, and one making use of technological innovations and non-coal based, green environmental resources. The category of 'mining landscape' is associated with the conceptualisation of resource extraction as a dynamic practice unfolding on a "contested terrain with complex socio-cultural, material and discursive dimensions, emphasising and reflecting considerable shifts in the way the extractive sector is understood" (Ey, Sherval 2016: 177).

In the relatively small space around the Turów complex, where relations of power and domination are played out, I look at the relationships between people coming from diverse social groups, having a variety of professions, and equipped with varied symbolic and economic capital, whose lives are in many ways intertwined with the mine and the power station, with coal and energy. I reflect on the relationships these people have with their neighbours, with the management of the mine and the power plant, and with the employees of the Turów complex. I listen to the stories of concrete persons, which reveal their experiences: fears, worries, hopes, prognoses related to the decarbonisation process and the "life after coal". I analyse how they live, how they function in the vicinity of the mine and the power plant, how they experience the transformation of the environment and the emergence of energy landscapes. I move in a locality which, geographically speaking, seems a single one, yet which through its location at the Tri-Point (an area recently referred to, more spatially and less pointillistically, as the Tri-Land) has a transnational dimension, creating a Polish-German-Czech nexus divided by administrative borders into Upper Lusatia, Saxony and the Liberec Region. Moreover, this close proximity, supported by the declared unity of the main principles of the European zero-emission policy, has made the Tri-Point a transnational space of diverse but at the same time shared events and situations,

which, occurring in one specific place, resonate in others, heedless of administrative borders in the same way the environment is oblivious to them.

European policies and national strategies for decarbonisation of this region have embedded the local area around the Turów complex into a global process of establishing a world that seeks to reduce CO2 emissions as much as possible. The localness of this complex process intersects with the global and European green deal policies, the assumptions of climate neutrality and zero carbon emissions by 2050, as well as global strategies to prevent or mitigate the climate crisis.

The neighbourhood relationship between the local community and the Turów mine and power station also follows the pattern of interspecies relations. Researching the energy transition requires a transrelational view of people, matter (coal), the mining infrastructure and transformed landscapes, which must be seen in terms of interweaves and human/non-human arrangements, in whose emergence and transformation an important role is played by variable temporalities (competing visions of the past and of the expected, projected futures), as well as by different scales, including the global scale (i.e. capitalism and neoliberalism with their specific strategies for managing the environment and its resources seen in terms of commodities), the planetary scale (related to the climate and environmental crisis), the European scale (related to decarbonisation and zero-carbon policies and currently also to the energy crisis), and finally the national scale, which manifests itself in political and economic decisions, in new forms of managing the mine and mining infrastructure, as well as in the connections that link coal with heritage and cultural identity (cf. Kuchler, Bridge 2018).

Interweave IV. Conflict in the contested landscape around the Turów complex

Usually, the enrichment and development of the centres is correlated with the impoverishment of the periphery, and new forms of entrepreneurship are accompanied by new manifestations of poverty. Consequently, it is not uncommon for communities leaving the places of their previous lives to be presented in academic and journalistic texts as passive, disempowered victims of modernisation processes, who, previously often having led a low-mobility lifestyle, against their will are forced to leave their family homes, towns and landscapes in the clash of activities around the extractive ventures. The category of victims, losers, people exploited by the capitalist system of development and modernisation, includes the so-called "affected communities" (cf. Kirch 2014: 133), who are usually described as inhabitants of specific areas where investments and projects are planned over their heads and implemented arbitrarily, without prior public consultation or despite their clear opposition; it must be noted that such projects are related not only to the extraction of, for instance, coal, copper,

gold, oil or shale gas, but also to the production of the so-called green energy, acquired from renewable sources such as wind, water, sun and biomass (Hornborg 2006).

Anthropological attentiveness shows, however, that it is useful to perceive and analyse the processes of industrialisation, as well as the associated socio-cultural, economic, environmental and infrastructural transformations, as non-obvious. While systemic thinking in terms of long duration fosters a focus on large-scale, extended changes over time, assemblage-oriented thinking about the phenomena occurring in the areas where high-energy materials are extracted allows us to see the many shifts and ruptures in the relationships between the many actors and factors that make up their concrete, emergent systems (Haarstad, Wanwik 2016: 432), as well as to grasp their dynamics and change at micro-scales.

The perspective I adopted in my research corresponds with the approach described by the anthropologist Anna Lowenthaup Tsing, according to whom the essence of sound anthropological research is to constantly analyse global projects, ones aspiring to universality, in local contexts, conditions and materialisations, carefully examining contradictions, points of contention, differing perspectives and interests (Lowenthaup Tsing 2015). In the energy transition process, the different motivations and expectations of many actors intersect. Concern for the planet, the desire to halt climate change, anxiety about high CO2 emissions, loss of biodiversity and disruption of ecosystems are intertwined with green deal policies, environmental justice and prognoses concerning the curbing of emissions on the regional and national scale. In contrast, among issues that very commonly appear in the statements of my male and female interviewees are the fear of the loss of jobs or sources of income, as well as the fear of another transformation of the landscape (after the one caused by the coal industrialisation): this time, in the process of reclamation and decarbonisation.

I call the area around the Turów complex a contested landscape, but I am not fixated on 'conflict' as a key research category. In my perception, neither of these concepts constitutes an *a priori* assumed, basic lens useful in the process of looking at what is happening or what is activated in the field. This is because transformation is a process involving not only environmental and technological change or innovation management (Callon 1987), but also their social dimensions. It is not uncommon for researchers of economic/ecological processes to focus on the so-called critical moments (Torrens et al. 2019: 219) in order to explore situations of contention, differing rationales and incompatible visions of a post-coal future. It is perhaps cognitively valuable to scale the dynamics of conflict in an analysis that draws on drama, following the assumption that conflicts "are part of a dynamic arena where actions are staged, meanings are discursively negotiated, and stories are becoming a part of a strategic repertoire" (Yuana, Sengers, Boon, Hajer, Raven 2020: 167). At the same time, applying the model of a clear polarisation of the attitudes and interests of the actors involved in the process may result in overlooking the complexity of the conflict itself.

In research within the current of anthropology of energy, but also outside it, it is not uncommon to use these categories to arbitrarily separate the local community, among whom the research is conducted, from the decision-makers, politicians, entrepreneurs, investors, researchers – in a word, from the so-called expert and decision-making subjects. According to popular opinion, it is these subjects that are the architects of change as the disposers of plans and decisions and the producers of tools and strategies for their implementation. Along the axis of such a division, groups are usually positioned as communities of specific, shared interests; their heterogeneity, multiplicity of opinions and aspirations, as well as their internal conflicts are ignored. The already mentioned way of conceptualising an environment: as one divided by conflict, fosters the perception of local communities as victims of top-down decisions and processes adopted above their local worlds (Cuppen et al. 2019). This regularity is also indicated by anthropological research on various aspects of political and economic transition showing that the scholarly discourse labels these groups as passive, maladjusted, unable to cope with the new transformational realities, all in all, as losers; labels disregarding their agency and grassroots activities (cf. Buchowski 1996; Rakowski 2009).

Aware of the entanglement of pro-environment processes in power relations and networks of political and economic dependencies, I see conflict as a kind of conceptual trap, where the researcher is too hasty in stating its sides. This rushed choice largely obscures the complexity of the tensions that arise in the area adjacent to the mining and power complex. Recognising the existence of certain cognitive patterns and specific analogies, I seek to change the lens by proposing what I call a reversed perspective. This tactic relies on ceasing to see communities situated in specific entanglements of political, ecological and economic dependencies as groups directed from the outside, and therefore as ones that live according to the expectations of the dominant actors. The reversed perspective means making note of their agency, inventiveness, openness to change and willingness to influence their own future (cf. Majbroda 2019: 301). It does happen, of course, that conflict is legitimate as the axis of research and the binaries generated around it prove useful in explaining the phenomena and processes under investigation. Usually, however, the fields of anthropological exploration are less clear-cut, constituting heterogeneous spaces in which diverse values, aspirations, attitudes and social practices are intertwined.

Activating a transrelational perspective makes it possible to see the diversity of attitudes and expectations towards a transitional future. My interviewees and the people whose activities and undertakings I observe are primarily former residents of Wigancice Żytawskie, Rybarzowice, and residents of Bogatynia, Zgorzelec, Opolno Zdrój, Wyszków and the surrounding villages. A significant proportion of my partners in research are employees of the mine and the power plant, small businessmen, and the "larger players", ones who count in the region. They are also members of various non-governmental organisations, local officials, conservators of historical monuments,

and local activists involved in initiatives aimed at developing and preserving the tangible and intangible heritage of the region.

I observe their lives at local cultural events, at public debates, at outdoor events and vernissages; at the "Berlinek" open-air market in Bogatynia; in the square in front of the Clockmaker's House; at the village hall in Opolno Zdrój; in the former spa park and in many other places where everyday activities and festive events take place. It would be too hasty to assume that the residents are maligning the mine management, organising demonstrations, publicly expressing their opposition, blocking excavators and bulldozers working on the pit. Thus, the transition encounter does not involve two sides: the local community and the broadly understood decision-makers, which had previously been assumed to be antagonistic, to be two involved groups producing differing narratives, manifesting opposite senses of transition and defining its courses and directions in differing ways.

Due to the anonymisation of the interviewees' personal data and the digressive nature of the point in question, I will use a general example here. Those involved in instructing the local community to support the energy transition are cautious because they do not want the local authorities to associate them with activists. They animate cultural activities, cooperate with artists from Poland and abroad, organise open-air events, create residencies for painters or sculptors. At the same time, they are constantly trying to involve the local community in order to breathe life into the stagnant localities situated in close proximity to the open pit (cf. Depczyński, Stefańska 2022: 116–117). In doing so, they are under no illusions: the "good old days" of the region will not return, but the memory of them can be restored and strengthened. "Something has to be done to shake people out of the indifference, a sort of lethargy" in which they are stuck in the face of the energy transition (cf. Krukowska, Rzerzycha-Myśliwy 2021). Action needs to be taken to remind people – both in the region and in Poland – of the localities around Turów, and perhaps to get the Germans and Czechs interested in this area.

All these activities require funding, so the local NGOs apply for project funds, prepare grants, look for donors, and also ask the mine management for help. From time to time the situation gets out of hand, especially when events are organised in cooperation with the NGOs having a pro-environment profile, who often care less about political correctness and occasionally deliberately highlight the anti-mine themes. This applies mainly to organisations that operate outside the region, the ones that "come, act and go".

Some residents are happy to get involved in the organisation of these events, but some are not interested, for various reasons: local power configurations; unknown NGOs that implement certain policies "not on their ground"; lack of time; their own support for the mine's activities. There are also those who do not see a connection between artistic activities or social life animation in mining towns and the criticism

of what is being done by the Turów complex. Some of my partners in research, however, emphasise these connections and, when considering the possible scenarios for the future, fear that criticism and the activities stemming from it may cause the mine management to lose interest in the revitalisation and equitable transformation of the region. In the course of their many years of proximity to the mine, the residents of the Bogatynia commune have learnt how to "live on coal". They have woven the lignite deposit into their personal histories, into the neighbourhood stories and family narratives, and thus achieved what might be called a symbolic "coal community".

Officials and administrative staff of the mine and power plant, too, display a variety of attitudes towards the transition, by adopting certain attitudes and entering certain roles. For example, one miner may collaborate with pro-environment organisations; he would talk to an anthropologist about the importance of expert environmental diagnoses submitted by one such organisation to the mine's management and explicitly point out the negative, damaging impact of the mine on the environment: air, water, land formation and the biodiversity of ecosystems. Meanwhile, his colleague, also a miner, cannot imagine living outside of Turów, believing that the Czechs' complaints to the Court of Justice of the European Union and the complaints of pro-environment organisations are no more than "envious rumours" and "deliberate confusion". Moreover, it is not uncommon for many people to function in several groups at the same time; in this case, they pursue, at least postulationally, conflicting policies and goals, doing it by formal and informal means, making use of contact networks, social relations, family links and so on. As a result, local scandals erupt, which require new strategies of action to be developed; a course that could be described, following Annette Kolodny, as "dancing through a minefield" (Kolodny 1980: 4).

This strategic navigating of the shifting and unpredictable space of clashing interests, power and subordination of multiple individuals and social groups also constitutes a research tactic and a way for the researcher to function carefully within these concrete realities. In this understanding of the field, the anthropologist – to repeat after Anna Lowenthaup Tsing – experiences momentary encounters of diverse temporalities and trajectories, heterogeneous landscapes of multiple temporal phenomena and "shifting assemblages of humans and non-humans" (Lowenthaup Tsing 2015: 143) in precarious living conditions and uncertain environments, surrounded by irregularities.

Conclusions

A field in the process of energy transition very quickly verifies the dichotomies and order-imposing binaries a researcher may have in their head when looking around in a reality they have not yet encountered. Meanwhile, anthropological distrust fosters the perception and analysis of the process of industrialisation and its associated socio-cultural, economic, environmental and infrastructural transformations

as non-obvious assemblages related to broader socio-economic and cultural conditions. Transrelational thinking about the phenomena which occur in the areas where high-energy materials are extracted allows us to see the many shifts and fractures in the relationships between multiple actors, while systemic thinking in terms of long duration fosters a focus on large-scale, extended changes over time (Haarstad, Wanwik 2016: 432). What emerges and clarifies in the process of cognition requires the work of the anthropological imagination to weave together elements that have not been seen as interwoven before, and to untangle those that have not been separated. The activation of a transrelational perspective is accompanied by the practice of considering multiple aspects of local worlds in their broader global conditions and connections. Other accompanying phenomena are the shifting of scales and values, the trying out of new theoretical frameworks, and the creation of diverse configurations of issues belonging to the social, environmental, material, technological, economic or political spheres. The shifting of conceptual frameworks and perspectives of cognition, as well as the invalidation of divisions – between the dynamic situation and the immovable context, between that belongs to economy and what belongs to ecology, between what is public or private, local or global – allows the researcher to find new interweaves in the field and to question customary hierarchies, dominant narratives and established visions of reality, the e.g. media-based ones.

Establishing and scaling interweaves and connections is not free from misguided choices, unproductive associations and cognitive failures. Here, I share Kim Fortun's observation that the task of ethnographic *praxis* is to provide ways of recognising and making sense of complexity, not just to establish it (Fortun 2001). Also, researching energy transition requires a readiness to be multi-situated, which, as explained by the anthropologist Kaushik Sunder Rajan, "is a call to translate between these constitutive and antithetical scales, perspectives, and (in)tangibilities" (Sunder Rajan 2021: 37-38). In their dance through a minefield, anthropologists relentlessly translate the micro into the macro, the individual into the universal, and back again.

The post-coal future constitutes a radical difference, a world upside down, an inversion that does yet not find a language to resonate; despite being enshrined in regional development strategies and plans, this future has not yet become embedded in the local imagination. Finding interweaves in a field undergoing a process of transformation in unstable times, in the face of an uncertain future, is a demanding practice that can lead the anthropologist in hitherto unimagined and unrecognised directions – in a formula that must be receptive of an unexpected change and a necessity to turn back and seek different interweaves of the field.

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Summary

The article presents one of the strands of empirical research on the energy transition process conducted by an anthropologist in Upper Lusatia, in the Bogatynia municipality, in the area around the Turów mining and power complex. The perspective of transrelational ethnography makes it possible to weave together the various elements of this process and look at its changing environmental/economic, political and socio-cultural conditions. The text shows some of the many interweaves uncovered in the field, in the decarbonisation process, seen in the perspective of transrelational ethnography. It focuses on the ambiguities in the worlds of the region's residents as brought to light in the study. The author draws attention to epistemological traps, such as the category of conflict, that await the anthropologist in a field that faces an uncertain post-coal future. Also, the author stresses the lack of preparedness of the volatile, conceptually unclosed field and its unstable, complex, assemblage architecture.

Keywords: assemblage, anthropology of energy, transrelational ethnography, multi-site ethnography, energy transition, Turów mining and energy complex, conflict

Streszczenie

Artykuł przedstawia jeden z wątków badań empirycznych dotyczących procesu transformacji energetycznej prowadzonych przez antropolożkę na Górnych Łużycach, w gminie Bogatynia na obszarze wokół kompleksu wydobywczo-energetycznego „Turów". Perspektywa etnografii transrelacyjnej pozwala na splatanie różnych elementów tego procesu i przyglądanie się jego zmiennym uwarunkowaniom środowiskowo-ekonomicznym, politycznym i społeczno-kulturowym. Tekst pokazuje kilka spośród wielu splotów odkrywanych w terenie w procesie dekarbonizacji widzianych w perspektywie etnografii transrelacyjnej. Koncentruje się na niejednoznaczności klarujących się w badaniu lokalnych światów mieszkańców regionu. Zwraca uwagę na poznawcze pułapki, np. kategorię konfliktu, które czyhają na antropolożkę w terenie o niepewnej przyszłości po węglu. Tekst akcentuje przy tym niegotowość zmiennego, konceptualnie nie domkniętego terenu oraz jego niestabilną, złożoną – asamblażową architekturę.

Słowa kluczowe: asamblaż, antropologia energii, etnografia transrelacyjna, etnografia wielostanowiskowa, transformacja energetyczna, kompleks wydobywczo-energetyczny „Turów", konflikt

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