The anthropology of human-environment relations

Materialism with and without Marxism

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Abstract: What are Marxists to make of the new wave of materialism that has become influential in anthropology and across the social sciences and humanities? An ethnography of fishing in coastal Scotland and an analysis of Tim Ingold's ecological anthropology demonstrates both the usefulness and gaps in contemporary ecological and materialist anthropology. It finds that the reduced role for political economy, human intentionality, and material results in this literature significantly reduces their explanatory power. Efforts to unite analysis of humans and nonhumans have led to a lack of attention to the divisions within human societies, particularly the alienation of labor and therefore of ecological relations in capitalism. Understanding these dynamics is essential to contending with the current planetary ecological crisis.

Keywords: alienation, anthropology, capitalism, ecology, intentionality, Marxism, materialism, Tim Ingold

The importance of understanding material human relations with their environments was a foundation of Marxism and remains essential to Marxist analysis. Recently, various materialist approaches have become influential in anthropology and other disciplines (Bennett 2010; Ingold 2000). Even ontological and post-humanist anthropology engages with materialist concerns such as human-animal and nature-culture relations (Descola 2010; Viveiros de Castro 1998). This article draws on and critiques the influential ecological anthropology of Tim Ingold, and uses ethnography of human-environment relations at sea to examine the gaps in how Ingold and others deal with political economy, human

intentionality, and material results. Ingold has made a profound examination of the material conditions of life but has also avoided integrating his analysis with the political economy that structures ecological relations for most people in the world today. An emphasis on practical situated activity and unifying the analysis of humans and nonhumans has led Ingold and others to reduce the scope of human intentionality and therefore elide the effects of alienation and class divisions *within* human society. This approach makes it difficult to understand why human-environment relations in capitalism exist in their particular and devastating contemporary forms, and therefore to change them.

In this article, I first examine how fishing grounds are established and developed, using the concept of “affordances” from Ingold and of “metabolisms of labor” from Karl Marx. I outline the structuring effect of economic systems, the importance of human intentionality and material results, and explore how the emphasis on unifying humans and nonhumans has led to distorted interpretations of Marx’s writings. The article is based on ethnographic participant-observation research at sea and in harbors in northwest coastal Scotland from 2006 to 2008, with follow-up visits until 2010. I lived on a boat in working harbors around Skye and Lochalsh, worked as paid crew on a small fishing trawler, and spent time with seafarers who worked in the cargo shipping and oil and gas industry.

Human-environment relations: Developing grounds through labor

Lachie was a retired ship’s officer who owned a pub and hotel on the pier of a small Scottish harbor. The pub was a social hub for fishermen,¹

local workers, curious tourists, and a few pensioners. One long and beautiful evening in late July, Lachie took me out mackerel fishing in his small motorboat. We zoomed out for about 20 minutes and then stopped in his favorite fishing spot. Lachie put a handline over the side and caught a small mackerel almost immediately. He then put the line back in the water and gave it to me. Nothing happened. “What are you doing there, Penny?” Lachie asked in frustration, shaking his head and abruptly taking the line from my hand. “You must work the *whole* ground, up and down.” He showed me how to jig the lure up and down while lowering it a few feet with each movement until I felt the weight hit the bottom and the line go slack, and then how to raise the lure a few feet with each jig until it eventually arrived back up at the surface. He explained how the shoal of mackerel would move up and down in the water and that we needed to make the lure cover “the ground” in order to find them.

By this time, I had been carrying out fieldwork for almost a year and had a paid part-time job on a small prawn² trawler (see figure 1). The trawler crews I worked with commonly used the

FIGURE 1: A prawn trawler off the west coast of Scotland (photo by the author).

term “ground” to refer to the deep and muddy seafloor where they caught prawns (see figure 2). Now I realized that “ground” was a much broader concept dependent on what you were fishing for and where those creatures could be caught. Ground was “worked,” and these areas were contested at sea and discussed on the radio, on the pier, and in the pub. The grounds were places that afforded fishermen better catches and where they found their work to be productive. Grounds had particular characteristics relative to the kind of work that was undertaken there, which also changed over time. What grounds afforded to fishermen who worked them was inextricably connected to the labor they had expended there: fishermen reshaped the affordances of grounds through their work and developed new tools and fishing gear in order to further develop the affordances of grounds. The historical production of

grounds meant that they were places with which people formed strong bonds and which came to be expressive of their personalities.

The concept of “affordances” that I draw on here to describe the development of grounds was coined by the ecological psychologist James Gibson to describe the “complementarity of the animal and the environment” (1979: 127). Gibson explains:

An affordance is neither an objective property nor a subjective property; or it is both if you like. An affordance cuts across the dichotomy of subjective-objective and helps us to understand its inadequacy. It is equally a fact of the environment and a fact of behavior. It is both physical and psychical, yet neither. An affordance points both ways, to the environment and to the observer (129).

FIGURE 2: Prawns, also known as langoustines, *Nephrops norvegicus*, and Norway lobster (photo by the author).

Grounds are both “a fact of the environment” and “a fact of behavior,” both “subjective” and “objective.” While Gibson was mainly theorizing about animals, Tim Ingold adopted these concepts into anthropology and human relations. Understanding grounds as affordances emphasizes the labor of fishers in developing grounds rather than simply discovering them. This analysis of grounds is essential to understanding human-environment relations in this context and demonstrates the usefulness of Ingold’s analysis, as well as its limitations.

Constant attention to “feeling the ground” was one of the most important skills for crew to develop and was essential to properly developing affordances. New trawler crew needed an “education of attention” (Gibson 1979: 254) to learn not only to feel but also to react appropriately by changing the speed or direction of the boat in order to “keep the trawl going.” A person’s ability to develop affordances and “open up” new ground was also based on interpreting and remembering the dynamic effects of tide, weather, light, and season. The extent and productivity of fishermen’s grounds depended on their own labor. If a fisherman did not make these efforts, they would be unlikely to find productive grounds.

Fishermen often identified with the grounds they opened up and worked. I was told, with admiration, about Graeme, a young and successful hired skipper who “prided himself on trying to work a [rougher] edge—a lot of people would just go up and down in the clean because they are too afraid of the edge.” “Buckie” John was a hired skipper who prided himself on being a “grafter” (a hard worker) who would “go for quality” (large prawns), which meant making the effort to work shorter tows on harder ground and spend much time mending “damage” to nets. “Not minding the [hard] ground” was an important part of both “Buckie” John’s and Graeme’s identities and their willingness to take risks by “opening up,” and exploring new areas meant they were more likely to develop new affordances and even new grounds. Strong attachments to grounds developed through the

work of developing their affordances, which could also develop into a territorial attachment to grounds and sometimes conflict between creel³ and trawler fishermen (who used different techniques but both targeted prawns).

In a profound way, fishermen saw their work as contributing to the productivity of grounds. Fishermen acknowledged the pressure on prawn grounds but felt that grounds had expanded during the 45 years of the commercial prawn fishery. Not only did they “open up” new grounds for fishing, but trawlers also removed rubbish and obstacles from the tows they used, making them easier to work. “Cleaner” grounds were more productive, as less time was likely to be spent clearing and repairing the net, and more time spent actually fishing. The “tows” that trawlers traced with their nets and that defined their grounds were areas with promising affordances that had been further developed and modified to make particular kinds of work there more productive: the fishermen’s equivalent of a farmer’s “field.”

Crab could have a disease that fishermen called “black spot.” When first fishing for crab in an area, I was told that “you had to fish those [with black spot] out and then you would get a better quality.” Similarly, a trawler skipper told me, “If you come across a piece of ground with a lot of skate [a fish that eats prawns], first you have to fish them off, and that’s when you will find you start to get a good fishing of prawns. Otherwise the skate will just Hoover them all up!” Trawler skippers also saw their work as mixing nutrients in the sea and contributing to the overall health of the maritime ecosystem. The assessments that fishermen made about their improvements to the productivity of grounds were in terms of their particular fishery. It would be foolish to argue that the fisheries had no effect on marine ecosystems. Rather, fishermen saw their own labor as contributing to shifting marine ecosystems in directions that seemed to produce more prawns and crabs.

When fishers described grounds as overfished, it was the activities of *other* fishermen that were seen as destructive. Thus, creel fish-

ermen described trawlers as “hammering” and “ruining” grounds but saw their own activities as sustainable. Similarly, trawler fishermen described creel fishermen as “sterilizing” grounds and targeting female prawns, while their own activities “cleaned” grounds, contributed nutrients, and removed prawn predators. Fishermen almost always saw their *own* labor as making a positive contribution to the productivity of fishing grounds.

Understanding grounds as being created through the development of affordances is only the first step to properly understand *why* grounds are developed, why they change over time, and why they are important to people. Addressing these questions reveals key aspects that the ecological anthropology literature, including Ingold, often misses or rejects: the importance of human labor and intentionality, of the material results of this work, and, above all, of market pressures and class relations. In this article, I will situate the development of affordances into grounds as metabolisms of labor within a Marxist analysis of capitalism.

A metabolism of labor in nature

The concept of affordances offers a useful way of understanding the development of fishing grounds and, more broadly, how humans perceive, experience, and transform the environments they find themselves in, in every moment of their lives. Human actions in developing the affordances of their environments are labor processes, and Marx defined labor as a metabolism with nature:

Labour is, first of all, a process between man and nature, a process by which man, through his own actions, mediates, regulates and controls the metabolism between himself and nature. He confronts the materials of nature as a force of nature. He sets in motion the natural forces which belong to his own body, his arms, legs, head and hands, in order to appro-

priate the materials of nature. . . . Through this movement he acts upon external nature and changes it, and in this way he simultaneously changes his own nature. ([1890] 1990: 283)

Humans are a part of nature, and they are active within it, developing the affordances they need and want as they carry out their lives. Marx adopted the term “metabolism” from the understandings of respiration, biochemistry, and energetics emerging in the 1800s. Marx maintained a strong understanding of the material basis of “metabolisms” but also emphasized the intentional nature of many human interactions with their environments. As biological organisms, humans live in the “nature-imposed condition” of both their own bodies and the world (290), but they also have the capacity to develop and modify affordances in their environments and extend the capabilities of their bodies with technologies at an individual and social scale (see Foster 2000: 158-160; Howard 2017). Marx described metabolisms of labor as a feature of “production in general” and distinct from the specific configurations and alienation of labor and nature within capitalist systems (Patterson 2009: 147–148).

The key disruption in human-environment relations in capitalism is the alienation of human labor, which is at the same time the alienation of human labor from its environment and the metabolisms that sustain it. Capitalism rests on a “social separation of labor-power from the land and other necessary conditions of production, and their recombination only under capitalism exploiting wage-labor for a profit” or creating commodities for sale to a market (Burkett 2006: 53). This disruption and reorganization of the purpose of human labor and production systems creates “metabolic rifts” under capitalism (Foster 2000). Orienting production systems with the aim of producing commodities for a profit changes what affordances people develop in their environments, changes how they develop them, and can change nutrient cycles by altering where creature commodities such

as prawns are taken to and deposited as part of market systems and ecologies. Expressed in another way, the distinction between human labor (as an ecological process) and labor power (as a commodity bought and controlled by capitalists) is distinctive to capitalism and at the heart of human-environment relations (Fine and Saad-Filho 2010: 20–21). Capitalism's law of value structures contemporary economic, social, and ecological relations (Huber 2017); it is the metabolism in which we find ourselves. At the same time, as the development of capitalism has alienated people's relations with their environments to employers or a market, the potential scale of the changes that human society can effect in their environments has massively increased.

A dialectical analysis of the metabolism of labor in capitalism and how people remain a part of yet are alienated from it offers a way of understanding how humans are both intimately connected to and destroying nature, and how their labor might be both productive and destructive. The fishers I worked with in Scotland had good reason to see their own labor as increasing the productivity of grounds, and science so far shows that the prawn fishery is sustainable (Ungfors et al. 2013: 260, 285). However, they worked in a context of successive devastating collapses of the local marine ecosystem, with first cod and haddock and then herring being virtually eradicated in these waters. As one fisherman explained to me, people are "at the prawns" now not by choice but "because everything else ran out." The sea lochs and deep holes along the coast were populated with grounds that were no longer in use and are remembered only by the oldest fishermen, because there were no longer any fish there to catch (Howard 2017: 78–81). Commercial fishermen catch fish to make money, and successive fish commodities have been through their own booms and busts as the international market demand exceeded local ecological limits. The metabolisms of fishers I worked with in Scotland were dictated by a competitive market that meant that fishers had to catch what would immediately get a price, at

volumes and at a cost that left them financially viable. Seafood buyers paid the minimum price they could get away with, which never seemed to keep up with the cost of living or even of maintaining a fishing boat. Fishers had to work longer hours and catch more and more prawns just to stay even (Howard 2012a). If another fisherman got new gear, which meant they could catch more prawns for a lower price, you had to buy it, too, or risk never covering your costs as buyers lowered the price they would pay. As air travel made the seafood market more international, fishers were competing with people all over Europe and sometimes farther away. In the context of market competition and decreasing seafood prices, there has been a rapid increase in waged labor relations on Scottish fishing boats, and a sharpening class divide between boat owners and crew (Howard 2012a, 2012b).

The experience of work for most of the world's people is subject to such pressures, as capitalism expands its production systems and the "commodification of subsistence" increases (Bernstein 2010). Contrary to popular myths about the disappearance of the working class, the number of people "who supply labor for the production of goods and services" grew from 1.9 billion in 1980 to almost 3.5 billion in 2017—and this does not include informal labor (WBG 2018). While some makers such as artists and hobbyists may be in a position to practice the fully engaged and unalienated processes of making that Ingold (2013a) describes, most workers are not able to practice their labor in this way, and most goods we encounter are not produced this way either. Studies of unalienated production are still useful, but it needs to be recognized that such efforts exist in a tension and are under constant pressure from capitalist value relations that seek to commodify all aspects of human activity.

On a subjective level, the degree to which makers are able to control what and how they produce is likely to be subject to struggle. In coastal Scotland, the rewarding experience of opening up and developing grounds existed together with pain, tension, and sometimes fatal

pressure from buyers and banks, as different aspects of the experience of the same task. “Not a year goes by,” one skipper told me, “without someone I know or know of killed at the job.” Many skippers were on “happy pills.” Their young crews worked sorting prawns with a factory-line intensity, and they bounced from trawler to trawler, describing each one as a “shit bucket” no matter how well it was maintained (Howard 2017). Government regulations were becoming increasingly restrictive, and “the greens are coming at you from every angle.” “If you are a trawlerman,” I was told, “you think everyone is out to get you.” Rising environmental concerns about the sea have only sharpened the bitterness that fishers felt about the lack of public recognition of their labor and their sacrifices.

Although Ingold once wrote about “the painful process of negotiation” that people experience between “the dwelling and the commodity perspectives” (2000: 338), the role of labor and capitalism is conspicuously absent from his recent writing. For example, Ingold says he sees the process of making as “a confluence of forces and materials” (2013a: 22). In his ecology of materials, it is the clay and the brick mold that are foregrounded, not the brickmaker. “As the dancer thinks from the body, so the artisan thinks from materials” says Ingold (2012: 437), to find “the consciousness or thought of the matter-flow” (Deleuze and Guattari quoted in Ingold 2012: 437). An artisan’s body and thinking is thoroughly engaged with their materials. But people rely on their bodies to work, which become sore and hungry, and in most contemporary cases, they worry about meeting the next production targets or bank payment, or alternately squeeze such artisanal activities in between part-time jobs or adapt their making to market selling in order to keep a roof over their head. Their experience of labor is much more than a convergence of materials and forces.

Anthropological analysis of human-environment relations has the potential to stretch from the individual and subjective experience of labor

to its social and economic regulation, to include its intentionality and its alienation, its ecological relations, and its material results. This could be a useful contribution to the broader Marxist ecology literature, which tends to focus mainly on the systemic implications of metabolic rifts in capitalism and less on how this articulates with human labor and human experience within this system (e.g., Foster 2000). The influential theorist Jason Moore (2015) neglects the alienation of labor on both an individual and a systemic scale, emphasizing the interconnected “world ecology” of capitalism.⁴

The increasingly alienated relationships among fishing boat crew, between crew and the boats they work on and the environment they work in, and between boat crew and shore-based owners (Howard 2012a), does not change the fact that there is a real and ongoing metabolic relationship with the sea that fishermen mediate through their labor. The production of grounds continues, but changing social and economic relations affect the kinds of prawns and grounds that are produced, as well as people’s experience of this labor. It is not the case that a kind of pure nonmarket making exists on one hand and things are produced, on the other, through an alienated process that is not “making.” Much of human experience is tangled between these relations, and anthropologists must be positioned to attend to these different aspects of the contemporary human experience.

Grounds were developed through a metabolism of labor that was regulated through capitalism’s law of value that alienates humans from their own purpose in their labor. On a mass scale, capitalism’s law of value determines what work done in and to nature is worthy of financial reward, and has a profound influence on the human experience of these activities. The alienation of labor is also an alienation of human ecological relations at all scales. A focus on labor and a holistic analysis of the social and environmental effects of its alienation in capitalist societies is a contribution that anthropologists should be well positioned to make.

Intentionality and material results

The analysis of metabolisms of labor in nature that I have presented adds three key aspects to Ingold's analysis of human-environment relations: the important role of material results and human intentionality (and its alienation) in metabolisms of labour, and the structuring effect of political economy. Ingold's more recent work has significantly limited intentionality to being "immanent in the activity itself, in the gestural synergy of human being, tool and raw material" (2000: 352, see also 178, 415; 2013a: 43).⁵ A similar criticism of intentionality has also become a feature of anthropological literature on skill and enskillment that emphasizes the importance of "situated activity" and criticizes the ideas that such activity must be planned (Suchman 2007: 314). Ingold has made a sustained critique of understandings of human action as determined by "conscious models or blueprints" (1986b: 299), or, as he puts it more recently, "the active imposition of cultural form upon materials supplied by nature" (2013a: 41). While Ingold (1986a, 1986b) emphasized in his earlier work the importance of "practical consciousness" in overcoming such determinism, he now calls for an "ecology of materials" that "requires a change of focus from the "objectness" of things to the material flows and formative processes wherein they come into being" (2012: 431; see also 2013a: 45). As an example, he draws on Gilbert Simondon's description of making bricks, in which a brick emerges as a transitory form from the continuous modulation of materials and the "contraposition of equal and opposed forces immanent in both the clay and the mold" (2012: 433). Ingold emphasizes the creativity of makers and says he wants to bring them "out of the shadows . . . to celebrate the creativity of their achievement" (2013a: 22). But with each publication, Ingold appears to scale down the potential scope for human intentionality and labor even further. Grounds also involve forces (of wire, rope, and fishing gear; of hydraulic winches and diesel engines; and of the life of

prawns) and flows (of water and of the boat through it). But the exhausted skippers I worked with would be unlikely to see their struggle to produce prawns as a process of "growth."

What shapes human intentionality? The critical phenomenologist Robert Desjarlais argues that it is important to go "beyond phenomenological description to understand why things are this way" (1997: 25). The importance of asking this question and the perhaps surprising answers are illustrated in the establishment of the velvet crab fishery in the west of Scotland. Skipper-owner Yogi described meeting a man who worked for a Spanish seafood company that was seeking more suppliers of velvet crabs as its markets expanded but its local supplies were depleted.

The Spanish man told Yogi: "What kind of ground to look for, to go in by the kelp. I took a fleet of prawn creels, shortened the [rope] ends, and put them in shallow water. I couldn't even wait until the next day. I came to check them in five hours, and they filled seven boxes!" Yogi was reputedly the first person to fish commercially for velvet crabs in the waters around Skye and Lochalsh (Howard 2017: 32)

Although Yogi was very familiar with the local prawn grounds, it had never occurred to him to put his creels in the shallow weedy area he had always avoided. The Spanish man offered Yogi a market to sell to but had to explain to Yogi "what kind of ground to look for" in order to catch a crab in his own home waters.

If the exercise of human intentionality is limited to "the activity itself," as Ingold has argued, it is impossible to understand how Yogi's crab grounds came to be. At the same time, it could not be maintained that Yogi's search for crab grounds was all planned. As a commercial fisherman, his purpose was shaped by the market and his need to maintain a profit. But he was entirely flexible in how to achieve this. Useful here is the philosopher John Searle's distinction between "prior intentionality" and "intentionality in action": he argued that even actions that were not planned contained an element of intention-

ality in action (1983: 85, 107). He discussed the example of a:

skilful skier [who] has his Intentionality at the level of getting down the mountain. But each subsidiary movement is governed by the Intentionality of the flow, even though there is not, and need not be, an explicit representation of the intentional movement . . . in skilful behaviour there will be a lot of things that are not the focus of one's attention but are still intentional phenomena and part of the flow. (1993:293)

As a commercial fisherman, Yogi was like the skier going down the hill. He wanted to catch creatures to sell to a market—he needed to catch them to maintain his livelihood—but he did not have a fixed plan for achieving this objective. Yogi responded quickly to the offer from the Spanish buyer and deliberately began to look for velvet crab grounds and to develop techniques that afforded him velvet crabs, but he did not know how to do this. Opening up new grounds was an experimental process, which was both intentional (in that it had a purpose) and improvised (as he tried to figure out how best to catch, land, and ship the crabs). Yogi took the advice of others and experimented until he found what he was looking for: a combination of grounds and techniques that produced velvet crabs in exhilarating quantities—but exhilarating because the crabs were very valuable in Spain, and Yogi had the practical mechanisms to sell into that market. In any other circumstances, catching crabs in such volumes would have been a frustrating “waste”.

I should emphasize that the intentionality of fishing skippers did not result in or from careful planning. Indeed, crew were frequently frustrated at the total uncertainty of work on a fishing boat, never quite sure what the skipper planned, where the boat was going, what conditions would be like, how much work there was to do, or even how long they would stay at sea. An ability to adapt to and accept this un-

certainty was essential to surviving in the job. The uncertainty for crew was *caused* by the obsessive intentionality of skippers who experimented and did whatever it took to catch more prawns. Successful skippers would criticize as “unmotivated” those who were not willing to constantly experiment with new gear and new grounds and push themselves and their crew in an effort to catch more prawns. Searle describes “a continuous flow of intentional behavior governed by the experience of acting” (1993: 293). Fishermen used the “experience of acting,” individually and as part of a fleet, to constantly readjust their actions to better meet and satisfy their intentions.

Searle also argued that intentions have an internal condition for their satisfaction (1983: 11, 88; 1993: 81–89), which for Yogi was clearly the appearance of velvet crabs in his creels. Without velvet crabs, there could be no velvet crabs grounds. At the same time, a sea area in which velvet crabs lived only became crab “grounds” because of the price offered by the Spanish seafood company and Yogi’s success at catching and exporting them—the value assigned to these crabs in capitalism, not their intrinsic value. By the time I met Yogi, he had done well enough selling crabs to Spain to own two small fishing boats, a beautiful house on the harbor, and a shiny, black BMW. If we avoid the question of intentionality and material results and focus only on the immediate interaction between Yogi, his fishing gear, and the velvet crabs, we lose an understanding of how and why these grounds were developed and the significance they held for Yogi and others.

Ingold points out that it is only in the “context of practical activity” that the “affordances” of ground are developed (2000: 166). Objects or places become significant “by virtue of their incorporation into a characteristic pattern of day-to-day activities” (168). This treatment of “activity” glosses over the importance of intentionality and material results as components of a metabolism of labor. Grounds became significant because they are places where activities can meet their conditions of satisfaction

and produce the desired material results. If a place cannot be made to meet these conditions, the skipper would be “away,” looking for new grounds that afforded better catches. The result of each tow was critically important: were you “catching”? “A lack of prawns” would put any skipper in a foul mood. A day or two of poor catches was tolerable but would inspire frantic comparison with others. But before long, paranoia, self-doubt, and depression would creep in. This was the context in which intentions were formed and grounds were judged productive or not: a subjectivity shaped by its economic context and delicately balanced between the affordances of grounds and the market conditions in which commercial fishermen had to operate. In 1986, Ingold also drew on Searle’s discussion of intentions in action to make the point that planning is not necessary for intentional activity. Yet Ingold did not include the “conditions of satisfaction” that Searle emphasized are “internal” to intentions: Ingold describes the two components of “a complete action” as “the intention” and the “physical execution” (1986b: 318). Conditions of satisfaction are simply not included anywhere in the book. This neglect of material results flows on to how Ingold glosses affordances as a result of “day-to-day activities.”

Understanding the organization of specific metabolisms of labor in an environment involves understanding what structured fishers’ intentions: the markets they sold to, and the material results they sought. In commercial fisheries, the value of certain sea creatures develops chaotically with little relation to the social and environmental conditions of the places where these creatures can be caught. Fishers were remarkably successful in developing new grounds and affordances in response to the market but the fundamentally alienated metabolisms of labor that resulted (Howard 2017: 187) could drive fishers to unsafe fishing practices and even death, or lead to local ecological collapse. Alternately, reductions in price, or oversupply of the valued sea creatures could lead to bankruptcy (Howard 2017). None of these dynamics are comprehensible without understanding the

total metabolism fishers are a part of and what drives fishers’ intentions and the associated material results within this.

Unifying humans and nonhumans?

Ingold traces his intellectual history as developing from production, to history, to dwelling, and to lines (2011: 3–14). Despite the insights that this intellectual development has produced, it has moved further and further from the role of human labor and from an appreciation of the immense contradictions *within* human societies and human life—the “painful process of negotiation,” as he once put it (2000: 338).

Ingold himself says that “the criticism that the political is conspicuous by its absence from my own attempts to formulate a dwelling perspective is entirely just, and troubling” (2005: 502; see also Ingold quoted in Angosto Ferrández 2013: 300). He goes on to articulate “a politics of dwelling” that unifies humans and nonhumans and obliterates the boundaries between “nature” and “society.” He seeks to develop “an anthropology beyond humanity” and has retreated from analysis of human intentionality because he feels this is too closely tied to claims about human uniqueness (Ingold 2013b). Ingold carries on to explain, “in my defence,” that his interest in “dwelling” was sparked from passage by Marx and Engels ([1845] 1998) in the *German Ideology* about production as an unbroken, intransitive process. However, the deficiency of Marx and Engels, as he sees it, is in not being able to “close the gap between the human and the nonhuman worlds” (2005: 502). Ingold’s 1986 works and his essays reprinted in 2000 do address the question of “class exploitation” and “alienation,” as well as the more general loss of control experienced by workers in capitalist society (1986b: 256, 220). Fifteen years later, *Being Alive* contains an extensive discussion of Marx, but the only mention of “alienation” is “technologically induced” (2011: 113). Ingold’s 2013 book *Making* does not acknowledge the alienated forms of making that dominate a huge por-

tion of human experience today. The focus on unifying humans and nonhumans apparently has the effect of eliding an analysis of the peculiarly human divisions and dynamics of capitalism. Instead of the earlier tension between the “dwelling” and “commodity” perspectives, Ingold describes the tension “between the pull of hopes and dreams and the drag of material constraint . . . where the reach of imagination meets the friction of material, or where the forces of ambition rub up against the rough edges of the world” (2013a: 73). A labor-centered analysis that attends to the effects of alienation shows that it is frequently social and economic structures that either restrict or incentivize the process of making, who may engage with them, and under what conditions.

As Marx pointed out, the basic unity of humans with their environments is a fairly obvious point—although highly obscured and distorted by the operation of capitalist society. What requires systematic investigation and action “is not the *unity* of living and active humanity with the natural, inorganic conditions of their metabolic exchange with nature . . . but rather the *separation*” (1973: 489). This passage is part of a long historical discussion in Marx’s ([1857] 1973) *Grundrisse* notebooks examining how different forms of human social and economic organization have entailed different relations with their environments. Marx was seeking to understand how current alienated relations in capitalism arose and how relations have been different when not structured by capitalism. He was seeking the cause of current patterns of alienation and destruction in order to contribute to social movements working to change those conditions.

Jettisoning human intentionality in the interest of seeking a unified analysis of humans and nonhumans also jettisons the possibility of analyzing the alienation of human intentions, and the question of what people, systems, and priorities control these alienated human-environment relations instead. Ecological and ontological anthropologists have systematically misread Marx on this point. As previously dis-

cussed, an “intention” is often caricatured in this literature as a “fixed plan,” which is then rejected as an analysis of human activity artificially separating humans from animals and Westerners from others. Authors typically refer to the following quote:

A spider conducts operations which resemble those of the weaver, and a bee would put many a human architect to shame by the construction of its honeycomb cells. But what distinguishes the worst architect from the best of bees is that the architect builds the cell in his mind before he constructs it in wax. At the end of every labour process, a result emerges which has already been conceived by the worker at the beginning, and hence has already existed ideally. (Marx [1890] 1990: 284)

This quote is usually treated as Marx’s definition of human labor, written with the aim of distinguishing humans from animals. This is simply not the case: Marx’s definition of human labor is as a metabolism (cited earlier), and the “architect” is offered as an example of human intentionality in that metabolism. Ingold introduces the architect and bee quote, saying that Marx’s “concern was to establish a form of labour ‘peculiar to the human species,’” and describes “Marx’s eagerness to discount the work of animals” (1986b: 315, 316). Elizabeth Povinelli quotes Ingold and then summarizes Marx’s view of human intentionality as “human subjects fix in their minds images of the transformation about to occur before they fix their labor onto objects,” contrasting this to hunter-gatherers who “neither fix in their mind alternate images of the ecological landscape, nor permanently fix upon landscapes their labour” (1993: 25). Likewise, Samantha Hurn quotes Ingold and uses the architect and bee quote to demonstrate “the Marxist dismissal of nonhuman production” (2017: 214). The ontological anthropologist Phillipe Descola describes Marxist and constructivist models of “an intentional agent im-

posing a form on matter according to a mental blueprint” and then dismisses this as a “model of action unknown in most non-European cultures” (2010: 217).⁶

Yet Marx’s purpose in discussing the intentionality of labor was to establish that humans had their “own purpose” in their metabolisms of labor and therefore that the alienation of human purposes and products demanded by capitalists of their workers was not a “natural” state of affairs but rather the result of the very specific social relations of capitalism. The emphasis of Marx’s whole body of work is on the second, often-forgotten part of this quote: as Marx goes on to explain, how through labor a human “realizes his own purpose in those materials,” which requires “a purposeful will” and “close attention” ([1890] 1990: 284).⁷ An understanding of human labor as purposive is essential to understanding the contradictions between people’s “own purpose” in their labor and the alienation of this purpose through the value assigned to tasks through capitalism. This is also critical to understanding human-environment relations and their alienation under capitalism.

The quote about the architect and bee appears in *Capital* at the beginning of “Part Three: The Production of Absolute Surplus Value” and chapter 7: “The Labor Process and the Valorization Process.” Marx has already discussed commodities, money, and capital, and this part begins his discussion of the exploitation of labor. He starts by stepping back to discuss the role of labor in human existence transcending capitalism—beginning with the quote earlier about the metabolism of humans in nature. The paragraph continues emphasizing the purposive nature of human labor “a purpose he [*sic*] is conscious of,” and the architect and bee quote serves as one example as Marx elaborates on what human purpose and intentionality mean. The requirement of a “plan” receives only the one passing mention. The summary of the “simple elements of the labour process” in the next paragraph mentions not a plan but instead “purposeful activity, this is work itself” ([1890] 1990: 284). The chapter goes on to elaborate on the labor pro-

cess in detail. Materials are used, processed, and then used again in new processes. Raw materials become tools, which are then used to make new materials for other processes. Natural materials are adapted to human needs in a developing historical process. Labor is again summarized as “purposeful activity aimed at the production of use-values,” which is “the universal condition for the metabolic interaction between man and nature” (290). The chapter goes on to examine the valorization process of capitalism in which persons have sold their labor power to a capitalist and therefore sold that purpose—their control over their metabolism and what it produces. The buyers of labor power, the capitalists, determine how this labor is applied; they own the products and control what happens to them, according to a chaotic market system that frequently offers perverse incentives for destructive activity. Marx also explains the technical process of exploitation: how waged labor obscures the profit that capitalists are able to make from their workers’ labor (300–302).

Materialist and ontological anthropologists along with hybridists inspired by Bruno Latour frequently counterpose their efforts to unify humans and nonhumans with a fierce criticism of “Cartesian dualism” and the “‘Enlightenment Great Divide’ between nature and culture [as] the deeply flawed and apocalyptic premise of an outmoded ‘European cosmology’” (Bessire and Bond 2014: 440). Historian and social theorist Andreas Malm analyses “Cartesian dualism” as an approach that treats mind and body, and by extension, nature and society, as “distinct substances fundamentally detached from each other” (2018: 51)—a detachment that is essential to how nature is valued (or usually not valued) in capitalism (Huber 2017). Materialist and ontological anthropologists have typically turned to what Malm describes as varieties of “hybridism” involving substance and property monism, such that “there is only one substance, and everything made of it has the same essential attributes” (2018: 53). In this literature, it is common to label Marx as a Cartesian (for example see Ingold 1986b: 296). However, Marx’s

dialectical approach was neither dualist nor monist and is distinct from both approaches. Malm describes Marx's dialectical view of the human metabolism with nature as "substance monism" combined with "property dualism" (2018: 53–59). Humans are "of exactly the same substance as nature," and society "is made up of the same substance as nature, but has some highly distinctive properties" (53).⁸ Marxism recognizes both the fundamental continuities between nature and human societies, but also the differences that have led to the strange systems of valuation, exploitation, and alienation that are a unique feature of contemporary capitalism. Malm makes a blistering criticism of monist and hybridist approaches,⁹ convincingly arguing that the collapsing the distinctions between nature and society (or humans and nonhumans) fundamentally undermines the possibility of understanding and changing the destructive effects that humans have had on the planet (2018: 15–18, 61–63).

Efforts to improve the current disastrous state of human-environment relations through unifying humans and nonhumans in philosophical analysis—such as the "speculative futurism" of ontological anthropology (Bessire and Bond 2014: 450)—are unlikely to have the desired effect. Instead, they generate a misleading understanding of what drives contemporary human-environment relations by undermining the role of human intentionality and therefore the alienation of human purpose and metabolic relations through capitalist relations of production. This "diverts attention away from the actually existing politics of nature and culture" (449) and obscures the role of capitalism in structuring current ecological relations.

Conclusion

The current destruction of the planet and its vital systems is practical, material, and human-induced (Angus 2016). This is not simply a problem of ideology, that can be solved by criticism of ideological dualisms, or by finding concep-

tual unity, but is a problem of practical human relations, the work of an enormous social and economic metabolism, and a struggle for control of that metabolism. It cannot be solved by idealistic philosophical efforts to find unity and interconnections between humans and their environments, to unite humans and nonhumans, or to develop a post-human or beyond-human anthropology. While I sympathize with the concerns motivating many of the anthropologists making these efforts, what is actually needed is an identification, analysis, and sharp critique of the human activities that have brought the planet to the present crisis, and which can potentially assist with action to change the systems responsible. As Malm (2018) points out, analysis that seeks to collapse barriers between humans and their environments does not assist and may obscure the kind of action that is needed.

The causes of the rifts in human metabolisms with nature must be systematically identified along with the structural aspects of capitalist relations that separate the mass of humanity from the ability to control their relations with their environments, and alienation of this control, chaotically, to a tiny elite. In seeing "the problem" as the "the gap between human and nonhuman worlds," this literature has rejected a great deal of literature that is actually quite helpful in making such a critique of human activities—the Marxist tradition.

The weakness of political analysis in Ingold's writings is not a fair reflection of his own political convictions. Anthropologists, he says, have a "responsibility to engage in critical dialogue around the great questions of how to fashion our collective humanity in a world that is teetering on the brink of catastrophe." In a phrase evocative of Marx, he calls for anthropology "to join with people in their speculation about what life *might* or *could* be like, in ways nevertheless grounded in what life *is* like in particular times and places" (2013a: 6, 4).

It is impossible to understand why particular affordances are developed in present-day Scotland, without understanding the effects of capitalist market relations and production for profit,

and how these have unfolded over time. These relations play a critical role in shaping what intentions are prioritized, what affordances are developed, and how they are seen as satisfied. They affect the daily lives and subjectivities of fishermen, what fisheries are undertaken, what techniques are used, and what grounds are worked. It is similarly impossible to understand the extraordinary changes wrought to the planet that we rely on without understanding the effects of human action on it and how these are structured by capitalism (Angus 2016).

The exploitation of the sea's resources and of the people at the sharp end of extracting them are driven by similar economic and political pressures: a market whose competitive dynamics mean that people often need to catch more and more fish just to stay even, and in which, for fishermen, the consequences of not being able to keep up can be deadly. This context is crucial for a full understanding of how grounds are developed and how people experience and practice their own labor at sea.

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Notes

1. I have used the indigenous term "fisherman/men" when talking about fishers in Scotland, and the gender-neutral term "fishers" when discussing the global industry.
2. The creatures that fishermen universally referred to as "prawns" are called langoustines, scampi, or *Nephrops norvegicus* in other contexts; they have two claws and resemble a small, skinny lobster.
3. A creel is a baited trap covered with netting and left on the seafloor. Fishers check, empty, and rebait the creel every few days. Trawlers caught prawns by dragging a heavy net over the seafloor.
4. A more comprehensive critique of Moore's (2015) book has been made by Andreas Malm (2018: 179–183).
5. In contrast, Ingold described humans in his earlier work as "intentional subjects" (1986a: 5, 16–20).
6. Turner (2009) finds that Amazonian animism and a Marxist analysis are perfectly compatible.
7. Ingold (1986b: 315–322; see also summary in 2011: 5–6) acknowledges Marx's discussion of purposiveness but reads this as an underlying theme contradictory to the main thrust of Marx's work. Here, I have the opposite interpretation.
8. This formulation may appear to be superficially similar to Viveiros de Castro's (1998) formulation of Western thought as being characterized

by mononaturalism and multiculturalism. Here, the anthropologist Terence Turner's (2009) genealogy of Descola and Viveiros de Castro as successors to the crisis of late structuralism is important: they are concerned with nature and culture as contrasts, categories, and concepts, and not as material ecological relations and transformations carried out by sensuous physical bodies. Turner shows how Viveiros de Castro's perspectivism collapses nature to culture, and Descola's animism removes these as meaningful categories.

9. Malm's (2018) criticisms extend to anti-capitalist Jason Moore (as a hybridist) and Marxist Neil Smith (as a social constructivist) who both collapse nature into a social category.

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