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The secret and gendered lives of the underground

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ABSTRACT

The underground—for decades the invisible ‘other’ of landscape and terrain in geography—has emerged in political ecology literature as the source of ‘stuff’, or material things, resources and commodities that are not deemed intrinsically valuable until extracted. As a corrective, this paper offers a feminist political ecology perspective that brings subaltern women’s voices to the forefront, and argues that the underground is co-constituted as a gendered space by gendered humans. As evidence, I take the readers on a journey into the belly of a coalmine where humans labour, and bring out women’s voices that narrate their experiences and imaginations to create the underground as a space teeming with social life. These alternative and gendered narratives reinstate the diverse, complex, and secret lives of this netherworld, draw attention to the politics of imagining space, and potentially shift geographers’ focus to interpreting the underground as a gendered social space.

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Into the underground

The primary ground in conventional geographic texts is the visible, exposed surface ‘where most of the action is’ (Gibson 1979, 23), the space that geography has traditionally been concerned with—the ‘weather-world’ (Ingold 2010, 96–97) that includes the air, the subsoil, and dynamic earth processes. One of the early geographers, Hartshorne 1939, famously noted that geography’s mandate is the provision of ‘accurate, orderly and rational description and interpretation of the variable character of *the earth surface*’ (1939, viii; italics mine). This interpretation neglects depth (Pérez 2015) and verticality (McFarlane 2019), which characterize the underground, rendering it ‘the other’ of the horizontal space dealt with by geography and geographer, a

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space that is in opposition to documented spaces and which provides alternative cartographies that are devoid of life. The lack of visual stimuli separates the underground from the surface, 'a pictorial notion' (Foucault and Miskowiec 1986 n.d., 69), and the absence of visibility gives 'the underworld a unique power in the human imagination' (Williams 1990, 7). The relative invisibility of the underground, its verticality and sense of enclosure, lead to its being defined in the literature in 'non-thing' terms, as either an outer space or a margin or as dead or empty space, a void. The underground is often conceived of as a technosphere, 'a model of a technological environment' (Williams 1990, 8), where machines are the essential feature. Another interpretation of the subterranean is as *the* source of 'stuff'—material objects, resources, and commodities—things that are not intrinsically valuable until extracted (Clack 2009; Shutzer 2021).

Geographers know that nothing in this world exists beyond human imagination, and feminists have underlined that these imaginations are gendered. Yet why is this intrinsic part of nature interpreted only as a container of resources in political ecology? And what might be the epistemic politics of such elucidations?

I argue that excessive attention to the utilitarian value of the underground as a vessel for holding objects dehumanizes it. Although this enclosed space is known to relatively few, the portrayal of underground as a container of resources separates gendered humans from their places of work and their imagined places. This view skews our views of the underground and turns it into 'geography's secret': the space that remains asocial, ungendered, and outside of our purview. This separation allows us to erase the labour of those who toil there and co-constitute the underground as a gendered space. I argue that at the core of a feminist-historical-materialist account of the underground is gendered labour processes whereby bodies mix with the earth, co-producing the place.

Let us plunge into the darkness of the underland, into the belly of the coal mine. We start our descent by climbing into the shaft enclosure, holding on to the rod overhead, and trying to balance as the iron cage bangs noisily down the narrow chute. The clatter of iron bars no longer occupies our minds as we leave the known world and descend into the realm of the underground. As the faint rays of light fade gradually, we lose our sense of day and night; in the near-complete darkness, our eyes do not see much, and we must rely on our senses of touch, smell, and hearing. In this sense-escape of the depth of the coal-pit, we feel 'profoundly disoriented' (Bridge 2013). In the 'darkness of the morning' (Parker 1975), switch on the tiny light on your helmet to orient yourself to this 'different' space. Now we can see figures—shadowy, human bodies—toiling in this space. We hear voices, mates calling out to each other, the grinding of machines, iron clanking, bells ringing, large fans whirring as they blow air into the tunnel so that

we may breathe. Our vertical descent arouses wonder, risk, and danger; it reminds us that '[t]he subterranean environment is a technological one—but it is also a mental landscape, a social terrain, and an ideological map' (Williams 1990, 21).

The feminist act of entering into the secret space of an active underground mine is to deviate from the masculinist, utilitarian and materialistic conceptualisations that are based on a one-sided interpretation based on political ecology of the subterranean. This descent helps us to understand how gendered labour processes constitute the 'becoming' of the void that is also not so empty. Once our eyes begin to see the hidden figures labouring there, we no longer interpret the underground as a 'non-thing', a frontier to explore, a storage space to utilise, or an endless space of materials for humans to extract. We begin to see the underground as a social space, where the underground modifies gendered humans as they change this space through simultaneous transformations, and feel the immense power of the underground to impact social life elsewhere on the surface (Huber 2008, 106). By making the gendered social life of the underground visible, we not only see these spaces as culturally produced (Bennett 2020), but also as gendered.

The descent into the underground is also a travel into deep time (McFarlane 2019). Space and time are physical, material phenomena as much as constellations of social practices and symbolic ideas; they have diverse meanings that speak eloquently about work, the cultures of work, and bodies that work, and about how these working bodies are discursively constructed, socially represented, and legally regulated. To help you conceive the underground as a gendered social space, I use material from oral histories and narratives from real people in the collieries of India. These tales of alternative—and gendered—imaginings allow us to reframe the underground and reinstate its diverse and complex lives, which have tended to elude geographers. These narratives shift scholarly attention away from material supremacy to the social and gendered life of the underground, and argues in favour of viewing it not partially, in its modern materialist form as the source of commodities, but in its entirety, as a place that is meaningful to, and has meanings attributed to it, by gendered human beings. I use the term 'modern' broadly, for there are multiple modernities.

The underground: geography's secret

The 'other' of surface, the underground, is imagined in modernity as womb of the earth (Merchant 1990), hell or the netherworld (Pike 2007), and the 'third dimension' of geographic territory (Bridge 2013). It is codified in negative terms—'black', 'hidden', dysfunctional—and is associated with a commodity fetish. This materialist approach was perhaps initiated very early on

by Lewis Mumford whose 1932 visit of an elaborate, life-sized mining museum revolted him to an extent as to lead him to portray mines as representative of capitalist industrialization, a metaphor for the modern world, and an allegory for the increasing artificiality of technological civilization and its distancing from the organic rhythm of the natural world (Mumford 1934, 77). Kaika and Swyngedouw (2000) deploy the Marxian concept of naturalization of commodities (in their case, water) to show how the infrastructure that provides it is hidden, 'opaque, invisible, disappearing underground, locked into pipes ... conduits, tubes, passages' to render the process of commodity fetishization (123). This underground remains 'fairly hidden from view', as geographers march on with their core enterprises with 'a surface bias', although they argue that 'the subsoil has an analytical significance of its own and that this merits specific attention' (Bebbington and Bury 2013, 1, 25). Elden (2013) endows the subterranean with power, and argues that power has a historicity specific to geography in his (Elden 2021) more recent work.

Essentially, this geometrical analysis relies upon an abstract, Cartesian view of space as empty, or as a container of things. This becomes evident when Bebbington and Bury (2013) explain the 'hiddenness' of the underground as the hidden cost of extraction, such as the loss of memories, and the erasure of people's responses to extraction. The prevailing approach to the subterranean is to view 'people' as belonging to the surface only, thereby creating a binary between the produced and 'real' spaces on the surface, and crafting a ceaseless dynamic between the imagined and the material, which can be 'equated to that between the individual and the social and physical environment' (Crawshaw and Fowler 2008, 458). This enduring archetype of the underground, Williams (1990) reckons, 'is not a theme beyond time and society' (11) and Pike (2007, 1) argues that the underground has been a dominant image of modernity since the late eighteenth century. It has been a site of fascination, of hidden truth—a space that is threatening and otherworldly and which lies in opposition to the ordinary world above. The material underground as the most heavily exploited and technologically developed space is embodied in modern city living. As scientific knowledge and technology advanced, the idea of building a liveable and useable underground became credible. *Kansas City's Third Dimension* is a film that depicts the possible 'uses' of a once-abandoned limestone mine acquired in 1944 by the Commodity Credit Corporation to 'develop' it into a storage facility. The property of the underground as a 'natural cooler', the film argues, can lead to the 'resourceful utilization' of a virtual wasteland (Dean 1975, 25). The modern view is also expressed eloquently by McKinley (1993) who emphasizes the inadequate use of the underground and its resources and urges its utilization for future super-cities. These cities now entail a vertical existence

(Pike 2005), with spaces that are far-removed from day-to-day human interactions (Graham 2016).

Yet, powerful negations oppose the underground's utilitarian value epitomized in modernity. These annulments are both from the binary thinking in modernity and the continued flow of pre-modern beliefs, attitudes and views. First, some modern imaginings of the underground contain strong negative associations (Most 2014), connoting places, activities, and ways of life that are somewhat devious, not mainstream or legal (Razavy 2005). These imaginings can be expressed metaphorically as 'underground economy' (Gowan 1997) and 'underground markets' (Spillane 1998), and in words like 'wilderness' and 'waste' in thinking of the actual space (Watson and Smith 1971). These words are meant to arouse feelings of danger and entrapment (Ringstad 1994); consequently, both the metaphoric and literal underground become subject to denigration, or control through mapping and formalization (Kim and Kim 2010). I might add here that strangely, modernist interpretations of the underground sometimes also imagine an alternative economic space, a space of resistance (Rycroft 2003; Ziegler 2004), refuge, and harmony (Tanenbaum 1995), and a space to celebrate (Young et al. 2009). Through all these, the underground becomes either heroic or the site of greed-driven journeys into a traditionally forbidden realm, the 'appropriation of a nineteenth century space for its late twentieth century needs' (Pike 2007, xiv).

Second negation of modernist views of the underground comes from pre-modern and folk worldviews that see the underground as a part of a whole system that comprises the earth, the heavens, and the 'otherworld'. For example, in the Taoist imagination, the realm of the underground exists as a counterpoint to celestial spheres (Keightley 1978). Unlike the Western vision of the underground as hell, the Taoist underground is a temporary abode for those who are not yet part of the celestial hierarchy; the inhabitants can escape from this netherworld by working their way up the ranks of the otherworldly bureaucracy (Dean, pers. Comm. 2015). In Indian folklore, the underworld—*patala*—is one of the three realms that constitute the cosmos; the other two are *swarga* (heaven) and *martya* (earth). The *patala*, inhabited by the *nagas* (mythical serpents), is imagined as a beautiful realm—with groves and lakes, and sweet fragrance and music wafting through the air (Dimmitt 2012). These conceptualizations are in contrast to the modernist imagination of the underground. Melo Zurita (2020, 276) underlines that underground is not at all the 'sub terra nullius' that it is assumed to be in mainstream views: 'Thus, although the subterranean has increasingly become an epistemological space for economic, social and political calculation ... the underground in many ways still remains a mystical place that involves ritual'. Melo Zurita (2021, 6) also argues: 'Before humans started constructing infrastructure projects ... underground spaces were—and they still are—an essential part of cosmologies; they are used for survival, as spaces of refuge

and also as spaces that literally provide the life that sustains us'. Here we see how true Massey's (2006) views are on space and place as mental as well as physical constructs, and how these two, though distinct, are complementary.

Within the discipline of geography, feminist political ecologists have recommended moving beyond simplistic explanations of nature–society relationships towards critical analyses of complex and synergistic intertwinements, taking into account the contextual moralities and politics. This critique brings together interests concerning gender, power, justice, and intersectional and everyday experiences to co-constitute subjectivity and environment within historically situated webs of power relations at multiple scales (Harcourt 2019). The less visible 'intimate' scales (such as the body) are especially significant (Nightingale 2015). Feminist political ecology, rooted 'simultaneously in political economy, ecology and feminist activism' that challenges '... dominant practices of [environmental] knowledge and authority' (Resurreccion and Rebecca 2021, 5) is informed by feminist critiques of science, and emphasises power and the situatedness of knowledge.

Feminist political ecology resonates with neo-materialist historian LeCain's (2015) arguments against 'object fetishism' highlighting the historically and discursively constituted character of the natural world. LeCain (2009, x) writes: '[t]he subterranean is best understood as a hybrid system that combined natural and technological systems, rather than as a completely artificial construct imposed on a natural world'. The historical, the global, and the local bring together a multiply constituted underground that is both a physical reality and imagined, a microcosm of society. The underground draws our attention away from fixed boundaries to heterogeneity and internal differentiation, and to relational and contested spaces and their capacity to change over time (Hetherington 1997).

Underground mines are ritualized places full of material implements—technologies of what Dibner (1981) calls 'renaissance engineering'—and represent the triumph of scientific knowledge. This foreign, unfamiliar *El Dorado Technicum* (Graulau 2001, 94) has systems of social control that are also gendered (Rickard 1933; Gier and Mercier 2006). The shafts of a coalmine transform the material experience of the environment and technology into a heterotopic, symbolic frame that transcends the physical and incorporates fragments of everyday gendered life. The machines we use to descend into the underground do not only retrieve commodities but also the gendered social life of this space.

Can the inversion of topography in an underground mine also be an inversion of the conventional geographical binary logic that separates the physical reality from the imagined abstract, and the surface from the underground? How is the subsoil constituted by the labour and tears, and imaginations of gendered beings? These questions can prompt the development

of a wider theoretical and conceptual perspective by furthering Bebbington's (2012) view of underground political ecologies—'to engage with the subsoil highlights the centrality of the state to political ecology' (Bebbington and Bury 2013, 25)—and bring the gendered social to the forefront. However, Bebbington and Bury (2013) believe that statist centrality is expressed in struggles against the capitalized mining of commodities, but pay little attention to the spatiality of the underground. Richardson and Weszkalnys (2014) contest conventional and reductive conceptions of resources as 'nature turned culture', or purely 'social constructs', and offer 'resource materialities' as a guide for studying the multitudinous ways in which resources exist beyond their valuation and circulation as commodities. Street and Coleman (2012) deal with 'unconventional' and fictional spaces (in their case, the hospital) that are often seen as sites of tension with spatial ambiguities. This spatial ambiguity, they claim, has three simultaneous modes of representation that are applicable to the coal mines in this paper. First, underground mines are represented as places isolated from everyday social spaces in their symbolically ordered, mysterious, and magical nature. Second, in contrast to this image, the representations veer around the changeability (that is, disasters such as flooding or roof falls) that impinges upon this highly structured world. Third—a product of the first two characteristics—is the bounded yet permeable status: one cannot enter the mine easily, yet it is not made *entirely* of rocks. Notably, all three representations are devoid of femininity: imagined by men and imagined as masculine.

Corporeal bodies in material places

I will now take you to the secret gendered social spaces of underground mines. Let us begin in one of the world's largest, the Anaconda copper mine in Butte, USA. LeCain (2009, 25) laments that this exceptional feat of engineering never earned the attention, admiration, and criticism lavished on the massive terrestrial icons of modernity:

Imagine if the mines of Butte were somehow carved out of the surrounding rock as a single block, lifted up, inverted, and set back down on the surface. The resulting structure of stone, steel, and wood would, in many regards, far surpass any other on the planet. A mile high at its tallest point, the Butte mines would be twice as big as the world's largest skyscrapers, while the 726-foot-high Hoover Dam would be dwarfed in comparison.

Mining engineers build these giant structures, the quintessential human products of modernity. They see the mine as 'an organism' and speak in terms of the 'life of a mine'—from exploration, development, construction, and mineral processing to the completion or closure of operations (Black 1965, 111, 115). Integral to this life cycle are engineering and technology:

finding the ore body, planning and constructing the mine and all its associated works, digging up the ore and processing it to produce a marketable mineral product. In his influential 1934 *Technics and Civilization*, Mumford says that the mine is ‘the first completely inorganic environment to be created and lived in by men’ (67). Mumford describes the mine as a lifeless world, a concrete expression of capitalist environmental and social relations where capitalism and its destructive technology break the rhythm of nature. Mining engineers too take their job literally (*ingenero*, to create) creating an environment that is a subject of rock mechanics, the safety of workers, or the efficiency of production. As a result, social scientists have conventionally treated mining as the quintessential ‘other’, a special human project in its disregard for nature preservation (Lahiri-Dutt 2010).

Constructing a massive underground mine is an engineering feat, and this colossal scale conceals the tiny individuals who toil there. The sheer scale of some mines also invisibilises the gendered labour performed in these spaces. Even anthropologists, whose core business is to study the *Anthropos*, tend to focus more on the material; Taussig (1980), for example, writing on the worldview of peasant cultivators turned into waged miners, blames the labourers for turning into ‘agents of the devil’. This cosmology of miners has been assumed to be ‘the [only/predominant] response of people to what they see as an evil and destructive way of ordering economic life’ (36). Like the surface space, and mining as a human endeavour, the miner therefore becomes the archetypal ‘other’ of ordinary rural people, imagined as a farmer whose life follows the rhythm of nature. In this world of mining, women are relentlessly oppressed by a male-dominated society of mining labour (Nash 1979). While agriculture has a pattern—harvest followed by germination—mining is associated with ‘luck’: having mineral deposits (for countries) or striking it (for individuals) (Harvey and Press 1990, 2).

In this vein, Heuzé (1996) writes about the tract that ‘lies between the two rivers’ in the eastern part of India, the coal mining tract where much of my own ethnography was carried out. He notes that rural folks who visit the coal fields ‘testify to feeling ill at ease and, in fact, remain there for the shortest period of time’ (153), creating a bi-polarity between the surface and the underground, the normal and the dysfunctional/abnormal, the farmer and the miner.

Gendered underground

Alternative views exist. Scott (2008) argues for re-visioning the history of colonization into the subterranean, suggesting that colonists’ engagement with the underground were varied, and that the subterranean cannot exclusively be regarded as a space of colonial domination and exploitation. Benya

(2017) notes in her work on South African platinum mines that the colonial history of underground mine labour is gendered. In the context of Indian coal mines, Nite (2015) argues that it is *impossible* (emphasis mine) to think of India's coal mining history as ungendered. One can extend this point and argue that if the underground space is swarming with people, envisioning it as purely a physical, ungendered entity is imprudent.

The gender of the surface and the underground becomes apparent in Smith's (2006) analysis of the position of Korean women in Japanese mines. He shows that, as elsewhere, the pre-war Japanese mining workforce was shaped by gender, ethnicity, and class, where surface and the underground played significant roles. Korean women were the minority, but they constituted a disproportionately large percentage of hewers; they earned lower incomes than majority-group miners, experienced discrimination in housing and other areas of daily life, and were, generally, never able to assume supervisory positions (of the *sakiyama*). But what is significant is the location of their work: Korean women worked on the surface, whereas Japanese women were employed underground. While relatively safe, these above-ground jobs were poorly paid.

In the mines, new gender norms were introduced. In South African underground mines, gender identities that had been developed on the surface became fluid and uncertain underground as black men—usually migrant labour—shed their gender identities (Moodie 1994). In the masculine underground environment, older migrant men would form sexual alliances with younger men and gratify themselves by rubbing their penises on the thighs of the younger men.

In colonial Indian collieries, where both indigenous male and female labourers worked together, the presence of women's bodies increasingly became problematic for colonial administrators, who established codes of femininity and decency followed by Western and urban-educated women, thereby reinforcing the masculinity of the space (Lahiri-Dutt 2013). Around 1919, when rumours spread that *kamins* (women labourers) were giving birth to babies inside the coal seams, the colonial British brought in Curjel 1923, a woman doctor practicing in Scotland, to inspect. In her 1920 report (published later as a journal article in 1923), Curjel (1920, 8, quoted in Lahiri-Dutt 2013, 8) disapprovingly describes the working conditions that to her appeared strange:

[W]omen who are carrying coal for men employed in opening up new galleries may have to work in parts where there is little air movement, in an atmosphere vitiated by smoke from naked oil lamps. Young children are found under the same conditions, often a small charpoy is brought down as a bed for a young baby.

In response to this report, the nationalists brought in Kamini Ray, a university-educated, elite-class indigenous feminist from Calcutta, to scrutinize

the situation. When Ray asked the women labourers whether they preferred to work above ground while their men went underground, they responded:

No, no; we should like to be together, otherwise we shall always be in fear and anxiety thinking what might happen to them. When we work together, we care for each other, we have no anxiety, for if we die, we die together. (Ray 1923, 75, quoted in Lahiri-Dutt 2013, 7)

This statement reflects not only the women's willingness to be with their partners but also what gender truly means underground: an entire web of social relations within which women and men exist. This web is constituted of family ties, relations at work underground, and life at home on the surface; the idea of mutuality between the sexes, of working jointly and facing risks collectively as a family unit. It is also constituted of ideas and ideals that both men and women who inhabit the underground seams value. When women say that dying with their men within the mine is better than worrying about them, they are also claiming space and exhibiting agency. Above all, the statement suggests that, spatially, the productive and reproductive functions of mineworkers had shifted and were shared: the underground was not exclusively reserved for non-reproductive activities.

Gendered imaginations

To further understand the gendered underground, we now descend into the Chinakuri coal mine in the Raniganj colliery belt of West Bengal, India. Unlike the Butte Anaconda copper mine, Chinakuri is one of the oldest functional collieries in India, perhaps in the world. Mr Betts, an Englishman, initially owned the land and began digging in 1823 using lower-caste and indigenous labour from outside the district (Bhattacharjee 2017).

To substantiate my argument that the underground is a social space, I will present excerpts from conversations I had at Chinakuri with Dulali, Dulu, and Benki. These conversations took place during a three-month visit to Chinakuri and surrounding villages in the winter of 2003–04. I have been studying women in the Raniganj coal mining area since 1995, with financial grants from the Ministry of Environment and Forests, Government of India and the University Grants Commission of India. The women, who are among many I have worked with in this region over the years, work in the mine. They belong either to indigenous or low-caste or subaltern communities of 'traditional' coal cutters (Paterson 1910). These women often came from neighbouring districts into the colliery tracts to work with their male relatives—fathers, husbands, brothers—and worked as coal loaders underground (Chaudhury 1996). Let me note here that not all of them have visited the underground; some have merely fantasized about the space from the surface. This is because only a few women remain in Indian collieries today and are

generally not allowed to work underground (Lahiri-Dutt 2012). The Indian Mines Act, 1952, prevented women from working underground for well over half a century (Lahiri-Dutt 2019), but in 2019 the law was amended.

Dulali Bauri, in her mid-forties, is one of the few women colliery workers. She makes electric coils for industrial fans that are used to ventilate the underground passageways and tunnels. Dulali's father and husband were both coal miners, and when she was younger they took her down the Chinakuri shaft several times to show her their place of work, the *khadaan* (mine). These visits are etched in her memory and for her the underground remains a tantalizing place. The fact that she is not allowed into the *khadaan* only increases her curiosity. Dulali vividly describes the shadowy figures lit by the lamp on her helmet:

In the underground, it is difficult to see what lies ahead. It is a mysterious place ... The *malkattas* [miners] move in the dark like shadows. With the coal dust covering their clothes and their bodies, they almost merge with the black colour of the coal ... It is difficult to see who it is, but they know, they recognize, although I can't figure out how they do that. During short breaks, they gather in small groups, talk about their families and other things, and share the *tiffin* [snacks] that they bring from home. Even when they are working, they are always looking out for each other.

Dulali describes the sounds and smells of the underground:

It is not quiet at all down there. There are many things happening, things are being moved, machines whirring. There are large fans that blow air in the tunnel—they make a lot of noise. One can hear all that even if one doesn't see everything, so it gives a strange feeling, nothing that one feels when on the surface. Sometimes you cannot even see the walls—that is why they paint the walls with *chuna* [white lime] ... The roof of the tunnel is held up with columns and wood. And there are many tunnels branching out from the main one, lined with train tracks for coal wagons. I do not know where these side tunnels lead to. I only know that one can so easily lose one's way in that maze of tunnels ... There is a lot of water in the underground—it is a muddy and wet place ... It has its own smell—a little musty and wet, like the ground after rain ... There are many animals—cockroaches rustling past, lizards, and sometimes even snakes swimming in the water. They try to move quietly along the walls. But any living thing becomes white there—from the corner of my eyes, I saw white cockroaches and rats running about as we walked along the labyrinth ... Some parts of the tunnel are warm, some are cooler—you get a sudden breeze of air as you walk past ... At the end of one tunnel, there are a few men making little holes in the rock. They stuff dynamite in these holes and run away. And then boom! The blast breaks the coal for the loaders.

Dulali's testimony brings the underground to life—as a place where labour is performed and allegiances are formed, and not as a mere container of resources. Working in the underground and building mateship extends beyond the underground to the surface, merging gendered identities. She relates a visit by a leader of the *majdoor sabha* (workers' union)

to the pit: 'Banarasiji was proud of him [her husband] when he went to see the working condition of my husband [and his colleagues] underground ...'.

Dulali's husband has told her that the underground 'talks' to him,¹ and he heard the rocks speak to him just before some of them came down:

People who work underground can hear the rocks speak to them. The coal talks to them, the rocks that hold the roof above them talks to them. Sometimes, the workers would hear the rocks move, as though the coal whispered to them: *hat jao, hat jao* (move away, move away). They know that they must move quickly and reach the surface when they hear the roof talk to them like this.

The darkness allows the senses to create new ways of knowing a place, or place-making. Dulu Ruidas, of the *chamar* caste (traditionally, leather workers), came to work in the mines after the death of her miner husband who had worked underground. She arrived in Chinakuri soon after her marriage and insisted her husband take her to his workplace, because he used to tell her that he loved it. But she experienced it as a completely 'different world':

It was not easy to walk in there—I had to lift my sari and wrap it tightly, wear a helmet, and take a battery that lights the lamp. I went down in the *duli* (shaft), far down, the same length as two palm trees. When we were in the underground, I saw men were cutting the coal, making a road inside the earth. One can go a long way under the surface, even up to Topse [a nearby village]. So many men were working there; everyone was busy with their jobs. Someone was cutting the coal, someone else was loading it. Oh, it was so dark there; I feel that being in my mother's womb must have been like that! Someone was spreading *chuna* on the wall. The walls are black because it is a world of coal. Coal is everywhere. In one place there was a very big hole in the ground, a bit like a pond. Four pumps were pulling water out of that hole. Ever since I saw this, I knew his work was hard, but then I told myself that he also had friends and that is when I understood why he spent so much time down there.

Seeing his place of work, I changed somewhat. Ever since that day, if we had a fight I told myself that his life has no certainty. I stopped quarrelling with him.

I felt his work involved a lot of risk. Think of it: if by any chance the water fills up, people die. If the roof falls, then too people die.

The darkness, the poor visibility, the sense of risk provide ample room for imagination, and blur the boundary between the 'real' and the 'imagined'. Benki Mejhen, a young Santhal woman, works as a security guard at the nearby Mahabir colliery; she started as a pellet maker² but is now posted at the office gate. She had previously worked as a wagon loader in a colliery called Bansra. Benki is descended from family labour units that came to work in the mines: the *malkattas* would cut the coal, and the women would

load and transport it. Benki began working at Mahabir after her mother retired from her job at the same colliery. Benki's grandmother had also worked in the 'company' collieries. Although she has worked at collieries for several years, Benki has never been underground, but this space is woven in her imagination from the stories told to her by her mother and grandmother, and she regards underground mining work with great curiosity and interest from a distance:

Never have I been under the ground, working here for so long. I never dared. No one took me there. My mother told me that there are always things going on there—sounds of machines, wagons moving past, and sounds made by people. People's voices can be heard as they talk; sometimes they are working and sometimes resting, relaxing, singing, or talking to others. The sound of blasting is the loudest. But not much can be seen ... A pile of coal dust here, some logs there, but all one can see is darkness ... I have heard that it is damp and warm there ... I think of it as an eerie and silent place—so black ... But then she told me that people ride on the wagons to reach the face where they cut the coal ... How do they do that? They only have a little light on their helmet.

Benki imagines the underground where her husband toils, but her perspective is not necessarily negative. It is a worldview that brings gender to the heart of our understanding of the social lives of spaces, and it provides a reinterpretation of our historical understanding of the search for, and exploitation of, underground resources and colonial dominance. McClintock (1995) believes the will to overpower nature is an expression of gendered colonial violence. Yet, gendered people are infantilized, subdued, and forced to bow before the commodity, thereby reducing their value as humans providing labour. The above excerpts from the narratives of the three indigenous women show the folly of a hyper-imaginative association of colonized people with a feminized nature and the problems in presenting the colonized as those who failed to 'discover' and 'utilize' the natural resources and apply their agency to associate themselves with the underground.

Excerpts from Dulali, Dulu, and Benki put the missing life back into the underground. The confined space become simultaneously emancipating, intimidating yet comforting, and restless and quiet, and a place of labouring as well as the conviviality of being. The points that these three women's personal experiences of visiting and/or imaginations bring to the fore are at the heart of feminist political ecology. Generations of feminists have consistently critiqued the rendering of women's labour, views and knowledges at the periphery of the mainstream. When political ecology of resources is considered, the social and gendered lives of the underground cannot be relegated to the margin. These excerpts show how the politics of resources intersect with feminist reappraisal of environmental knowledge and considerations of space and place in geography. True to feminist objectives,

strategies, and practices proposed by feminist political ecology, they present an embodied materiality of underground space that is co-produced with gendered subjectivities. Like the Anaconda mine's materiality, the 'different world' of the underground visited by Dulu, and imagined by Benki and Dulali, comes alive as we pay close attention to their imaginations. Their sense of joy in visiting this world, and the delight that their accounts convey, cannot be devalued by a simple conceptualization of the underground as a source of resources, a container, a space waiting to be put to use. We see that the gendered underground is not only simultaneously real and imagined, it is also a confining and emancipating space. Finally, these excerpts invite geographers in general, but political ecologists in particular, to accept feminist conceptualizations of politics and subject formation.

No space is ungendered

Our descent into the underground is, in many ways, an excavation of the perceptions, conceptualizations, and imaginations of this realm, mapping gendered mental landscapes to feminize the political ecology of the subterranean. In this feminist journey, as we dig through the layers, we see a disjuncture between gendered imaginations and modernist imageries of the subterranean. We see that the underground is much more than merely a container of commodities or a source of resources: teeming with life, it is a buzzing, lived, and laboured community space. The katabasis invite a rethinking of the subterranean: not unidimensionally, as devoid of human life or interest except in its resource value. They invite us to shift our focus away from the resource or the physical space as its container. They show us that there is no need to separate things from people, and to emphasize commodities and capital value extraction as the only process that goes on in this space.

One's interactions reflexively change one's awareness and imagination of places and, therefore, of place-making (Feld and Basso 1996, 4). The experiences and imaginations of women such as Dulali, Dulu, and Benki contest the political ecology view of the underground purely as spaces of raw materials or commodities, geopolitical control, and capital circulation and speculation. Rather, they enable and visibilize resource politics other than those that hinge upon economic and materialistic interpretations. The stories empower new feminist epistemologies of the underground, and force us to listen more carefully to subaltern voices such as theirs. These narratives co-produce the underground as a social, socialized space, packed with people who have their own gendered ways of experiencing and relating to this space with spatial, visual, sonic, and corporeal recesses and a subaltern politics. These are the many secret lives of the underground, lives that help us to reconceptualize this space.

Notes

1. Mining engineers have noted that when the weight of rocks causes a lower layer, which holds the roof, to shift, a faint rumbling, or 'roof talk', may be heard.
2. Clay pellets are used in stuffing explosives for blasting coal.

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References

- Bebbington, Anthony. 2012. "Underground Political Ecologies: The Second Annual Lecture of the Cultural and Political Ecology Speciality Group of the Association of American Geographers." *Geoforum* 43 (6): 1152–1162. doi:[10.1016/j.geoforum.2012.05.011](https://doi.org/10.1016/j.geoforum.2012.05.011).
- Bebbington, Anthony, and Jeffrey Bury. 2013. "Political Ecologies of the Subsoil." In *Subterranean Struggles: New Dynamics of Mining, Oil and Gas in Latin America*, edited by Anthony Bebbington, and Jeffrey Bury, 1–26. Austin: University of Texas Press.

- Bennett, Luke. 2020. "The Bunker's after-Life: Cultural Production in the Ruins of the Cold War." *Journal of War & Culture Studies* 13 (1): 1–10. doi:[10.1080/17526272.2019.1698845](https://doi.org/10.1080/17526272.2019.1698845).
- Benya, Asanda. 2017. "Going Underground in South African Platinum Mines to Explore Women Miners' Experiences." *Gender & Development* 25 (3): 509–522. doi:[10.1080/13552074.2017.1379775](https://doi.org/10.1080/13552074.2017.1379775).
- Bhattacharjee, Subhomoy. 2017. *India's Coal Story: From Damodar to Zembezi*. New Delhi: SAGE Publications.
- Black, R. A. L. 1965. *Mining and Modern Engineering*. London: Imperial College of Science and Technology, University of London.
- Bridge, Gavin. 2013. "Territory, Now in 3D." *Political Geography* 34: 55–57. doi:[10.1016/j.polgeo.2013.01.005](https://doi.org/10.1016/j.polgeo.2013.01.005).
- Chaudhury, Ray. 1996. *Gender and Labour in India: The Kamins of Eastern Coal Mines, 1900–1940*. Calcutta: Minerva.
- Clack, Timothy. 2009. "Sheltering Experience in Underground Places: Thinking through Precolonial Chagga Caves on Mount Kilimanjaro." *World Archaeology* 41 (2): 321–344. doi:[10.1080/00438240902844434](https://doi.org/10.1080/00438240902844434).
- Crawshaw, Robert S., and Corinne Fowler. 2008. "Articulation, Imagined Space and Virtual Mobility in Literary Narratives of Migration." *Mobilities* 3 (3): 455–469. doi:[10.1080/17450100802376795](https://doi.org/10.1080/17450100802376795).
- Curjel, Dagmer. 1923. "Report on the Conditions of Childbirth in India (Countess of Dufferin Fund)." *Indian Journal of Medical Research* 8 (2): 40–54.
- Dean, L. 1975. "How Underground Space Use Started in the Kansas City Area." In *The Proceedings of the Symposium in the Development and Utilization of Underground Space*, 25–28. 5–7 March, Kansas City, Missouri.
- Dimmitt, Cornelia. 2012. *Classical Hindu Mythology: A Reader in the Sanskrit Puranas*. Philadelphia, PA: Temple University Press.
- Dibner, B. 1981. *Heralds of Science as Represented by Two Hundred Epochal Books and Pamphlets in the Dibner Library, Smithsonian Institution, Burndy Library and Smithsonian Institution, Washington, DC*.
- Elden, Stuart. 2013. "Secure the Volume: Vertical Geopolitics and the Depth of Power." *Political Geography* 34: 35–17. doi:[10.1016/j.polgeo.2012.12.009](https://doi.org/10.1016/j.polgeo.2012.12.009).
- Elden, Stuart. 2021. "Terrain, Politics, History." *Dialogues in Human Geography* 11 (2): 170–189. doi:[10.1177/2043820620951353](https://doi.org/10.1177/2043820620951353).
- Feld, Steven, and Keith Basso. 1996. "Introduction." In *Senses of Place*, edited by Steven Feld, and Keith Basso, 1–23. Sante Fe: School of American Research.
- Forster, E. M. 1909. "The Machine Stops", First published in *Oxford and Cambridge Review*, republished in 1928 in *The Eternal Moment and Other Stories*.
- Foucault, Michel, and Jay Miskowiec. 1986. "Of Other Spaces" (Trans. J. Miskowiec)." *Diacritics* 16 (1): 22–27. doi:[10.2307/464648](https://doi.org/10.2307/464648).
- Gibson, James J. 1979. *The Ecological Approach to Visual Perception*. Boston: Houghton Mifflin.
- Gier, Jaclyn, and Laurie Mercier (Eds.). 2006. *Mining Women: Gender in the Development of a Global Industry, 1670–2005*. New York: Palgrave Macmillan.
- Gowan, Teresa. 1997. "American Untouchables: Homeless Scavengers in San Francisco's Underground Economy." *International Journal of Sociology and Social Policy* 17 (3/4): 159–190. doi:[10.1108/eb013304](https://doi.org/10.1108/eb013304).
- Graham, Stephen. 2016. *Vertical: The City from Satellites to Bunkers*. Brooklyn: Verso.
- Graulau, Jeannette. 2001. "Peasant Mining Production as a Development Strategy: The Case of Women in Gold Mining in the Brazilian Amazon." *European Review of Latin American and Caribbean Studies* 71: 71–104.

- Harcourt, Wendy. 2019. "Feminist Political Ecology Practices of Worlding: Art, Commoning and the Politics of Hope in the Class Room." *International Journal of the Commons* 13 (1): 153–174. doi:[10.18352/ijc.929](https://doi.org/10.18352/ijc.929).
- Hartshorne, Richard. 1939. *The Nature of Geography: A Critical Survey of the Current Thoughts in the Light of the Past*. Lancaster, PA: Association of American Geographers.
- Harvey, C., and J. Press. 1990. Issues in the history of mining and metallurgy. *Business History* 32 (3): 1–14.
- Hetherington, Kevin. 1997. *The Badlands of Modernity: Heterotopia and Social Ordering*. London: Routledge.
- Heuzé, Gerard. 1996. *Workers of another World: Miners, the Countryside and Coalfields in Dhanbad*. Delhi: Oxford University Press.
- Huber, Matthew. 2008. "From Lifeblood to Addiction: Oil, Space, and the Wage-Relation in Petro-Capitalist USA." *Human Geography* 1 (2): 42–45. doi:[10.1177/194277860800100207](https://doi.org/10.1177/194277860800100207).
- Ingold, Tim. 2010. "Footprints through the Weather-World: Walking, Breathing, Knowing." *Journal of the Royal Anthropological Institute* 16 (Supplement s1): S121–S139. doi:[10.1111/j.1467-9655.2010.01613.x](https://doi.org/10.1111/j.1467-9655.2010.01613.x).
- Kaika, Maria, and Erik Swyngedouw. 2000. "Fetishizing the Modern City: The Phantasmagoria of Urban Technological Networks." *International Journal of Urban and Regional Research* 24 (1): 120–138. doi:[10.1111/1468-2427.00239](https://doi.org/10.1111/1468-2427.00239).
- Keightley, David N. 1978. "The Religious Commitment: Shang Theology and the Genesis of Chinese Political Culture." *History of Religions* 17 (3/4): 211–225. doi:[10.1086/462791](https://doi.org/10.1086/462791).
- Kim, Geun, and Jeong T. Kim. 2010. "Visual Environment within the Already-Built Underground Development in South Korea." *Indoor and Built Environment* 19 (1): 184–191. doi:[10.1177/1420326X09357994](https://doi.org/10.1177/1420326X09357994).
- Lahiri-Dutt, Kuntala. 2010. "The Megaproject of Mining: A Feminist Critique." In *Engineering Earth: The Impacts of Mega-Engineering Projects*, edited by Stanley D. Brunn, 329–352. Springer: Dordrecht.
- Lahiri-Dutt, Kuntala. 2012. "The Shifting Gender of Coal: Feminist Musings on Women's Work in Indian Collieries." *South Asia: Journal of South Asian Studies* 35 (2): 456–476. doi:[10.1080/00856401.2011.633984](https://doi.org/10.1080/00856401.2011.633984).
- Lahiri-Dutt, Kuntala. 2013. "Bodies in/out of Place: Masculinities and Motherhood of Kamins in Indian Coal Mines." *South Asian History and Culture* 4 (2): 213–229. doi:[10.1080/19472498.2013.768846](https://doi.org/10.1080/19472498.2013.768846).
- Lahiri-Dutt, Kuntala. 2019. "The Act That Shaped the Gender of Mining." *Extractive Industries and Society* doi:[10.1016/j.exis.2019.02.011](https://doi.org/10.1016/j.exis.2019.02.011).
- LeCain, Timothy J. 2009. *Mass Destruction: The Men and Giant Mines That Wired America and Scarred the Planet*. New Brunswick, New Jersey, & London: Rutgers University Press.
- LeCain, Timothy J. 2015. "The 'Nature' of Mining: Nature, Materiality and Commodification." *Paper Presented at the Digging for Treasure Conference*, Ruhr University of Bochum, Bochum.
- Massey, Doreen. 2006. *For Space*. Thousand Oaks: SAGE Publications.
- McClintock, Anne. 1995. *Imperial Leather: Race, Gender and Sexuality in the Colonial Contest*. New York: Routledge.
- McFarlane, Robert. 2019. *Underland: A Deep Time Journey*, New York: W. W. Norton.
- Melo Zurita, Maria de Lourdes. 2020. "Challenging Sub-Terra-Nullius: A Critical Underground Urbanism Project." *Australian Geographer* 51 (3): 269–282. doi:[10.1080/00049182.2020.1723829](https://doi.org/10.1080/00049182.2020.1723829).

- Melo Zurita, Maria de Lourdes. 2021. "Core Beliefs: The Underground Is Full of Stories and Structures." *Architectural Review* 1480: 6–12.
- Merchant, Carolyn. 1990. *The Death of Nature: Women, Ecology and Scientific Revolution*. San Francisco: Harper.
- Most, Doug. 2014. *The Race Underground: Boston, New York and the Incredible Rivalry That Built America's First Subway*. New York: St Martin's Press.
- Mumford, Lewis. 1934. *Technics and Civilization*. New York: Harcourt Brace and Company.
- Nash, June. 1979. *We Eat the Mines and the Mines Eat Us: Dependency and Exploitation in Bolivian Tin Mines*. New York: Columbia University Press.
- Nightingale, Andrea J. 2015. "Challenging the Romance with Resilience: Communities, Scale and Climate Change." In *Practicing Feminist Political Ecologies: Beyond the Green Economy*, edited by W. Harcourt, and I. Nelson. London: Zed Books, 182–208.
- Nite, Dhraj K. 2015. "Wo/Men Miner and Family-Oriented Labour: An Indian Colliery (Jharia)." *Indian History: Journal of Archive India Institute* 2: 1–36.
- Parker, Gordon. 1975. *The Darkness of the Morning*. Newcastle: Bachman and Turner.
- Paterson, J. C. K. 1910. *Bengal District Gazetteers: Burdwan*. Calcutta: Bengal Secretariat Book Depot.
- Pérez, Maria A. 2015. "Exploring the Vertical: Science and Sociality in the Field among Cavers in Venezuela." *Social & Cultural Geography* 16 (2): 226–247. doi:[10.1080/14649365.2014.973438](https://doi.org/10.1080/14649365.2014.973438).
- Pike, David L. 2005. *Subterranean Cities: The World beneath Paris and London, 1800–1945*. Ithaca & London: Cornell University Press.
- Pike, David L. 2007. *Metropolis on the Styx: The Underworlds of Modern, Urban Culture, 1800–2001*. Ithaca & London: Cornell University Press.
- Razavy, Maryam. 2005. "Hawala: An Underground Haven for Terrorists or Social Phenomenon?" *Crime, Law and Social Change* 44 (3): 277–299. doi:[10.1007/s10611-006-9019-3](https://doi.org/10.1007/s10611-006-9019-3).
- Resurreccion, Bernadette, Elmhirst Rebecca. 2021. Elmhirst "Introduction: Troubling Gender Expertise in Environment and Development: Voices from Feminist Political Ecology." In *Negotiating Gender Expertise in Environment and Development*, edited by B. Resurreccion and Rebecca Elmhirst, 1–29. London: Routledge.
- Richardson, Tanya, and Gisa Weszkalnys. 2014. "Introduction: Resource Materialities." *Anthropological Quarterly* 87 (1): 5–30. doi:[10.1353/anq.2014.0007](https://doi.org/10.1353/anq.2014.0007).
- Rickard, Thomas A. 1933. *Man and Metals: A History of Mining in Relation to the Development of Civilization*, Vols 1 & 2. New York & London: Whittlesey House & McGraw-Hill.
- Ringstad, Arne J. 1994. "Perceived Danger and the Design of Underground Facilities for Public Use." *Tunnelling and Underground Space Technology* 9 (1): 5–7. doi:[10.1016/0886-7798\(94\)90003-5](https://doi.org/10.1016/0886-7798(94)90003-5).
- Rycroft, Simon. 2003. "Mapping Underground London: The Cultural Politics of Nature, Technology and Humanity." *Cultural Geographies* 10 (1): 84–111. doi:[10.1191/1474474003eu263oa](https://doi.org/10.1191/1474474003eu263oa).
- Scott, Heidi. 2008. "Colonialism, Landscape and the Subterranean." *Geography Compass* 2 (6): 1853–1869. doi:[10.1111/j.1749-8198.2008.00164.x](https://doi.org/10.1111/j.1749-8198.2008.00164.x).
- Shutzer, Matthew. 2021. "Subterranean Properties: India's Political Ecology of Coal, 1870–1975." *Comparative Studies in Society and History* 63 (2): 400–432. doi:[10.1017/S0010417521000098](https://doi.org/10.1017/S0010417521000098).
- Smith, W. Donald. 2006. "Digging through Layers of Class, Gender and Ethnicity: Korean Women Miners in Prewar Japan." In *Women Miners in Developing Countries: Pit Women*

- and Others*, edited by Kuntala Lahiri-Dutt, and Martha Macintyre, 111–124. Aldershot: Ashgate.
- Spillane, Joseph. 1998. "The Making of an Underground Market: Drug Selling in Chicago, 1900–1940." *Journal of Social History* 32 (1): 27–47. doi:[10.1353/jsh/32.1.27](https://doi.org/10.1353/jsh/32.1.27).
- Street, Alice, and Simon Coleman. 2012. "Introduction: Real and Imagined Spaces." *Space and Culture* 15 (1): 4–17. doi:[10.1177/1206331211421852](https://doi.org/10.1177/1206331211421852).
- Tanenbaum, Susie J. 1995. *Underground Harmonies: Music and Politics in the Subways of New York*. Austin: Kirkus Media LLC.
- Taussig, Michael T. 1980. *The Devil and Commodity Fetishism in South America*. Chapel Hill: North Carolina University Press.
- Watson, Richard A., and Philip M. Smith. 1971. "Underground Wilderness: A Point of View." *International Journal of Environmental Studies* 2 (1-4): 217–220. doi:[10.1080/00207237108709469](https://doi.org/10.1080/00207237108709469).
- Williams, Rosalind. 1990. *Notes on the Underground: An Essay on Technology, Society and the Imagination*. Cambridge, MA: The MIT Press.
- Young, Nicholas M., Binod Sundararajan, Mary L. Stewart, and Paul Stewart. 2009. "Even Superheroes Need a Network: Harriet Tubman and the Rise of Insurgency in the New York State Underground Railroad." *Du Bois Review: Social Science Research on Race* 6 (2): 397–429. doi:[10.1017/S1742058X09990208](https://doi.org/10.1017/S1742058X09990208).
- Ziegler, Garrett. 2004. "The Politics of the Third Rail." *Space and Culture* 7 (3): 283–301. doi:[10.1177/1206331203262591](https://doi.org/10.1177/1206331203262591).