



Full Length Article

Commoning in the Anthropocene: Exploring the political possibility of *caring with* in Skouries of Halkidiki, Greece

Ioannis Rigkos-Zitthen ^{a,b,*}, Andrew McGregor ^c, Miriam J. Williams ^c^a Political Science from the University of Copenhagen, Denmark^b Human Geography from Macquarie University, Australia^c Macquarie School of Social Sciences, Australia

ARTICLE INFO

ABSTRACT

Keywords:
 Politics
 Commoning
 Caring with
 Anthropocene
 Large scale-mining
 Economic growth

As the planet moves further into the human-induced Anthropocene there is an urgent need to reconsider the values, practices, and politics leading to widespread ecological degradation. The prioritisation of economic growth by the most dominant political institutions encourages limitless expansion while minimizing awareness of the ecological vulnerability of the planet. Commoning presents an alternative political structure based on transformative practices of collective care or *caring with*. In this paper, we investigate how communities in Skouries of Halkidiki, Greece, are responding to the imposition of large-scale mining through three different commons initiatives. The women's collective, the chamomile commons, and the ten-day festival. These commons provide insights into how instances of *caring with* performed by human and nonhuman others are the foundations of local place-based politics. We argue that already existing examples of commoning and *caring with* can make visible a more fitting politics for the Anthropocene that can benefit decision-making at national and international levels.

"A man (sic) wants to earn money too, and his (sic) whole effort and the best of his (sic) life are devoted to earning that money. Happiness is forgotten; the means are taken for the end."

Source: Albert Camus, The Myth of Sisyphus, and Other Essays.

1. Introduction

Progress is often presented as synonymous with the pursuit of economic growth, as illustrated in the quote above. Earth system scientists, however, are concerned that this pursuit, above all else, is driving the planet out of the climatically stable Holocene epoch, which stretches back to the beginnings of settled agriculture some 12,000 years ago, into a new much more unstable and dynamic geological epoch called the Anthropocene (Crutzen & Stoermer, 2000; Hamilton, 2013). The Anthropocene is a geological term that has been proposed to signify a shift in the geological record that reflects the rapid transformation of the Earth by human activities since the mid-twentieth Century (Zalasiewicz et al., 2011). Often referred to as the Great Acceleration, the post-war period has become associated with an unrelenting assault on

environmental systems oriented at extracting economic value to fuel human development. This has benefited wealthier countries and classes much more than others, while simultaneously contributing to overlapping crises for all, including climate change, biodiversity loss, the proliferation of novel entities like synthetic chemicals and microplastics, and the alteration of biochemical cycles such as nitrogen and phosphorus cycles (Steffen et al., 2015). While some ecomodernists suggest that a "good Anthropocene" may still be possible through improved environmental stewardship and technological advancement, others have called for a fundamental rethink of the anthropocentric, individualistic and extractivist values and systems that underpin the endless pursuit of economic growth (e.g. Haraway, 2016). In this paper we contribute to such a rethinking by analysing how *caring with* and commoning are emerging as alternative sets of values and practices that can contribute to politics in the Anthropocene (Richardson et al., 2023).

We approach the Anthropocene with great concern due to the widespread human and nonhuman suffering associated with planetary degradation. However, like Donna Haraway (2016) we are hopeful that debates around the new epoch can help us cultivate new "imaginable epochs" based on different forms of place-based politics that challenge

* Corresponding author. Political Science from the University of Copenhagen, Denmark.

E-mail addresses: ioannisrigkos@gmail.com (I. Rigkos-Zitthen), andrew.mcgregor@mq.edu.au (A. McGregor), miriam.williams@mq.edu.au (M.J. Williams).

the hyper-separation of humans from nonhumans (Gibson-Graham, 2011) and reflect much more diverse sets of norms and values than those that pursue economic growth. While others have focused upon the ideal political institutions best suited for the Anthropocene (e.g. Dryzek & Pickering, 2019; Eckersley, 2018; Latour, 2004) here we explore the already existing forms of local politics that are emerging to accompany the new epoch. To do so we borrow from Doreen Massey's (2005, 99) conceptualization of globalization as "made in places" and that "not only is the local constructed out of the global, but the global is constructed from the local". We similarly position the Anthropocene epoch as being the accumulation of local political decisions and processes, such as clearfelling a forest, allowing a coal mine to go ahead or permitting a new feedlot to be built. In other words, we recognize that the Anthropocene is constituted by place-based politics, which include the many and diverse forms of oppositional values and relations that have emerged to resist and contest ecological destruction.

Species and planetary scales of thinking tend to dominate Anthropocene debates as local expressions of resistance are too often "off-staged by so many storylines and narratives" (Swyngedouw & Ernstson, 2018). However, we see place-based resistance being as much a feature of the Anthropocene epoch as the accumulation of CO₂ in the atmosphere. Just as Massey (2005) encourages "other" and "alternative" globalisations to proliferate, here we nurture awareness of alternative Anthropocenes, where the focus is not only upon the local and global impacts of planetary change but also upon the place-based political actions and more-than-human relations that have arisen to contest and resist the developments contributing to those changes. We see this pathway as hopeful and constructive and focus here on forms of resistance enacted through care and commoning to prevent a gold mine proposal in Greece. While it is only one of many diverse struggles occurring around the world, each of which will reflect their own histories and cultures, it provides a glimpse into alternative sets of values and politics that prioritise local communities and relations.

Following Gibson-Graham and colleagues we are interested in care and commoning as political responses to the Anthropocene (Gibson-Graham et al., 2016). Care is both a practice and an ethics, defined by Tronto and Fisher (1991, p. 40) as "a species of activity that includes everything we do to maintain, contain, and repair our 'world' so that we can live in it as well as possible". Tronto (1993, p. 127) identifies five phases of care:

caring about, noticing the need to care in the first place; taking care of, assuming responsibility for care; care-giving, the actual work of care that needs to be done; and care-receiving, the response of that which is cared for to the care.

The fifth phrase, *caring with*, recognises the ways care can be practiced through mutual relations of solidarity (Tronto, 2013). Care is a central practice that reproduces and sustains commons (Gibson-Graham et al., 2013; Parris & Williams, 2019).

We understand commons to be everyday collective practices and relations produced by communities of human and nonhumans (Bresnihan, 2016a; Gibson et al., 2015; Grear, 2020; Parris & Williams, 2019; Williams, 2018; Zapata Campos et al., 2020). Such an understanding recognises that commons are brought into being through practices of collective care (Singh, 2017) that are enabled and enacted through the more-than-human relations emerging from place (Bresnihan, 2016a; Gibson et al., 2015; Grear, 2020; Parris & Williams, 2019; Zapata Campos et al., 2020). We approach commons both as socio-natural processes (Karagianni, 2023), meaning social constructions formed around the relations specific humans develop with the material environment around them, and as laboratories that can enrich our political institutions with a variety of values and cultivate new understandings through the acceptance of pluralism (Ostrom, 2015).

To explore these ideas further, this paper examines community opposition to a large-scale gold mining proposal for Skouries of Halkidiki, Greece. The paper first delves into the literatures on care and

commoning, illuminating the opportunities enabled by shifting from a politics based on economic growth to a politics focused on collective care. We position the gold mining proposal as an example of the extractive politics that has contributed to the Anthropocene, based on *caring about* economic growth. We then outline our case study methodology before examining three examples of commoning that have emerged through practices of *caring with* human and nonhuman others. Through these examples, we explore how caring and commoning have become more active and visible at the local scale as the mining proposal looms. We then reflect upon the political potentials and limitations of these activities and their possible contribution to a more caring Anthropocene.

2. Conceptualising *caring with*

Care is considered a "species activity" (Tronto & Fisher, 1991) and practice that is as Power (2019, p. 765) notes, "central to human existence". As an ethics and practice, care has become a conceptual focus of geographers concerned with the possibility of caring cities (Power & Williams, 2020; Williams, 2016, 2020); infrastructures (Alam & Houston, 2020; Power et al., 2022; Williams & Tait, 2022); food systems (Abbots et al., 2016; Beacham, 2018); economies (Diprose, 2017; Dombroski et al., 2019); housing (Power & Bergan, 2019; Power & Mee, 2020); more-than-human connections (Puig de la Bellacasa, 2015; 2017); and commons (Bresnihan, 2016; Singh, 2017). Recent scholarship has recognised how care is practiced for human and more-than-human others, and with materials and things (Power & Williams, 2020).

In this paper we focus on *caring with* as a performative and ethical disposition or ideal which has the potential to challenge the dominant value of economic growth, as epitomized in the gold mine proposal, as the best economic route for improving collective well-being. Tronto (2017) has argued that *caring with* can disrupt the usual rationale behind how we define the premises of living well by moving away from ontologies that position humans as *homo-economicus* towards an understanding of humans as *homines curans*. Instead of thinking of humans as autonomous rational individuals who seek to maximize individual wealth, *caring with* starts with the premise that people and nonhumans are relationally connected and reliant upon one another for their collective survival (Puig de la Bellacasa, 2017). Care, as an ethics, is founded on a "relational social ontology, understanding our world in terms of the connections that bind us together" (Lawson, 2007, p. 4). Within this frame, *caring with* reflects an ideal form of care where alternative values can flourish, challenging political priorities based on maximizing economic growth, to instead recognize our collective responsibilities to and for care (McDowell, 2004; Power & Williams, 2020; Sevenhuijsen, 1998, 2003; Tronto, 2015, 2017; Williams, 2020).

Caring with also challenges the idea that relations between humans and nonhumans should be measured by their economic value (Lawrence & Churn, 2012; Lefebvre, 2004; Schrader, 2012; Smith, 2001). Practices that occur outside the formal economic domain such as cleaning and cooking, and taking care of children and the elderly are valuable practices of caring and contribute to wellbeing more broadly defined (Gibson-Graham et al., 2013). Practices of solidarity, conviviality, empathy, trust, mutual aid, and reciprocity are forms of caring labor (Federici, & Beatriz, 2014; Puig de la Bellacasa, 2017). Such practices have long been documented by diverse economies scholars as vital to social reproduction and as economic practices that sustain life (Gibson-Graham et al., 2013). *Caring with* provides a conceptual umbrella that recognises humans and nonhuman others as co-constructors of everyday worlds through practices of care (Barad, 2003; Bennett, 2010; Bresnihan, 2016a, 2016b; Escobar, 2018; Murray Li, 2007; Power, 2019). Under this framing the much-touted economic benefits of the gold mine can be contrasted with the already-existing but less visible forms of *caring with*. Moreover, *caring with* can be used to inform and interpret political strategies emerging in the Anthropocene. In Skouries of Halkidiki one

such strategy is commoning.

3. Commoning as the embodiment of *caring with*

Commoning is positioned as a form of *caring with* by Parris and Williams (2019, p. 535) who argue that “commons can be understood as sites of caring with that are cared for by a collective who shares responsibility for care”. The concept of commons was most famously examined by Nobel Laureate Elinor Ostrom (2015) who used the term to refer to the collective governance of finite natural resources. Thousands of documented case studies have since shown how different communities collectively manage natural resources often referred to as common pool resources or environmental commons (Ostrom, 2015). These resources include the ocean and the atmosphere (Gibson-Graham et al., 2016), fisheries, and meadows (Bresnahan, 2016b), co-housing (Huron, 2015), forest management (Agrawal, 2003; Murray Li, 2007), national parks, and irrigation system management (Ostrom, 2015).

A more recent approach to commons, defines them as constituted through practices of commoning, particularly care-full commoning (Bresnahan, 2016b; Gibson et al., 2015; Gibson-Graham, 2008; Gibson-Graham et al., 2013, 2016; Gear, 2020; Parris & Williams, 2019; Williams, 2018). As Linebaugh (2008, p. 279) explains,

to speak of commons as resources (material or immaterial) is misleading at best and dangerous at worst. The common is an activity, and it expresses relationships in a society that are inseparable from relations to nature.

Linebaugh suggests using the word commons as a verb—commoning—which involves understanding commons through an analysis of practices and the relations between socio-material agents (Bresnahan, 2016b; Gibson et al., 2015; Gibson-Graham, 2008; Gibson-Graham et al., 2013, 2016; Gear, 2020; Parris & Williams, 2019; Williams, 2018). Adopting such a lens means understanding commons as constituted primarily by the relational and performative praxis of commoning amongst communities, which include other-than-humans. Commons understood as reproduced through practices of commoning have been studied as community land trusts (Huron, 2015), housing cooperatives (Noterman, 2016), autonomous spaces (Bresnahan & Byrne, 2015), community gardens (Eizenberg, 2012), and community organisations (Parris & Williams, 2019) amongst others. Practices of caring are important for reproducing commons (Gibson-Graham et al., 2013). Parris and Williams (2019, p. 534) note that “for commons to be sustained and maintained, practices of care are crucial to their continued existence”. In their study of a community organization that included a community garden, they illustrate how commons are constituted by a community of human and nonhuman others who care with, for, and about the commons and argue that caring practices can be both intentional and unintentional, as more-than-human others are enrolled in practices of *caring with* and for the commons.

Commoning may help to cultivate a radical ethos essential for politics in the Anthropocene through collective management of material and/or immaterial wealth (Gibson-Graham et al., 2016). We recognize that the way different agents care through commoning is unequal and messy (McFarlane, 2009; Nightingale, 2019; Parris & Williams, 2019; Power, 2019; Williams, 2020). As Noterman (2016) notes, those who participate more in commons whilst taking on more responsibility can also receive greater benefits. Moreover, the benefits produced through commons can be distributed more widely than those participating in commoning practices specifically (Gibson-Graham et al., 2013). Commoning comes with its challenges in terms of access to decision-making and fair distribution of benefits but as Gibson-Graham et al. (2016, p. 4) suggest, commoning may assist us in “reimagining our ways of living on this planetary home” and our responsibility to nonhuman others. Those who common do so with others, and might be driven by and cultivate different logics and values such as solidarity, mutual aid, and empathy, reproducing other ways of being, doing, and thinking worlds (Williams,

2018). In this study, for example, we show how the benefits from forms of commoning oriented at opposing the gold mine extend to the economic, environmental, and social sustainability of the broader local community.

Commoning practices differ across space reflecting societies, cultures, and environments, each with their strengths, weaknesses, values, and priorities. Care, also always practiced relationally, is an important practice that reproduces commons, as actors care for, with, about, and through commons in diverse ways. In the following section, we outline the case study and the methodological approach before exploring the particular forms of commoning that have emerged in Skouries of Halkidiki. We position this case study as emerging in response to the (il) logics that are driving Anthropocene change, identifying forms of *caring with* that underpin and inspire oppositional politics.

4. Case study and methodological approach

Skouries of Halkidiki is in the Aristotle municipality of Greece and has a long history of small-scale mining, tourism, agriculture, and fishing. When the economic crisis hit Greece in 2010 the Canadian mining company Eldorado Gold approached the Greek government and proposed a gold mine in the region to help the nation pay off its public debt to global lenders, including the European Central Bank, the European Commission, and the International Monetary Fund (Meynen, 2019). Conservative and social democratic parties similarly presented large-scale mining to help the country escape the debt loop and bring substantial economic growth to the country (C.C. C. of Ierissos, 2019). The priority for these political parties was economic growth as a response to mounting debt within the country. The main beneficiaries of the mining investment were the mining company whose goal was to extract as much economic profit as possible, the Greek state, through taxation, and Greece's global lenders which expected the Greek state return the money they lent the country, including interest. Local miners were not expecting to receive large amounts of income from the mine but would receive wages.

Concerns emerged amongst local populations around Skouries as they became aware of the adverse effects of large-scale mining (C. C. C. of Ierissos, 2019). An anti-mining group started raising concerns about the negative impacts the mine expansion would have on public health, the environment, and local economic activities such as fishing, beekeeping, farming, and social cohesion (SoSHalkidiki, 2013). Tensions between supporters of mining and those wanting to preserve their current way of living emerged. Various national governments have come and gone since the announcement, with conservative parties largely favoring the mine and leftist parties opposing it. However, plans for the mine have progressed, even when the leftist SYRIZA party came to power in 2015 with a commitment to stop the mine, as they found it difficult to halt the economic momentum. The region, including the areas of anti-mining supporters in Aristotle municipality, that formed to contest the mine can be seen in Fig. 1.

To explore the commoning practices that have emerged to contest the mine the first author conducted fieldwork in Greece from the start of 2019 until the beginning of 2020 using a range of qualitative methods as part of their PhD research project supervised by a project team that included authors two and three. All fieldwork was conducted and completed before the beginning of the COVID-19 pandemic in March (2020). The research aimed to understand how and why commoning came to be practiced around Skouries. In total, 40 people from Ierissos and Megali Panagia participated in face-to-face semi-structured interviews, five focus groups with 4 people were held, and five group meetings were observed through participant observation. Study participants were selected through snowball sampling, beginning with prominent anti-mine activists identified through the internet. Interviews and focus groups were conducted in Greek, translated, and transcribed by the first author fluent in Greek and English. Observations were recorded in a field diary and provided supplementary understandings of



Fig. 1. Caricature symbolising how anti-mining communities around Skouries understood the situation in Aristotle municipality during the years of economic crisis in Greece. Ierissos village was depicted as the “Gaelic village” of resistance to mining.

Source: <https://conflictantiquities.wordpress.com/2013/04/10/greece-skouries-mine-corruption-violence-destruction/>

the role and activities of different commons in Skouries. The plurality of methods helped reveal different types of commoning practices, providing opportunities for people to communicate privately, in a group, or through existing organisations. Data was analysed to understand why different commoning activities began, the impacts on commoning participants and their political activities, practices of *caring with*, and the role of nonhumans actors as explored in the following sections.

4.1. The Skouries mining project

The Skouries mining project has a 25-year lifespan and began construction in 2011 (*Eldorado Gold*, 2011). It is driven by the Canadian mining company Eldorado Gold and its Greek subsidiary Ellynikos Hrisos. It is criticised for top-down decision-making processes that do not take the local populations' concerns about the health implications, environmental degradation, and social cohesion impacts of the mine into consideration (*Papada*, 2014). For Eldorado Gold to maximize value from its investment, it needs to reshape and transform the landscape by removing all socio-material relations that block the operation of mining (*Eldorado Gold*, 2018, p. 171). This change in ‘land use’ has far-reaching economic, social, and health impacts (*SoSHalkidiki*, 2013). We refer to this process as “smoothening”, following the terminology the mining company is using to describe its productive activity (*Eldorado Gold*, 2018). Smoothening aims to eliminate the social and ecological diversity around Skouries that may interfere with their pursuit of profit. In doing so the mine is contributing not only to local ecological degradation but is also one of many places in the world whose cumulative decision making and impacts are contributing to Anthropocene change.

To facilitate greater productivity the company has removed large swathes of forest to facilitate mining. Deforestation raises a multitude of environmental concerns including effecting the local microclimate and causing habitat loss (*Environmental Council of Aristotle University of Thessaloniki*, 2012). Technology is also being used to remove the water inside the mountain because underground waters disturb the extractive process for gold and copper (*Eldorado Gold*, 2018). The mine requires a dry environment where metals can be isolated from liquids and gases (*Eldorado Gold*, 2018; *Panayiotopoulos*, 2017). An interview with KP explains: “for the mining company to access the metals, miners first need to drill holes all across the mountain to drain the underground waters”

(Interview KP, December 11, 2019). The plan is for the mountain to be shaped like a giant filter to enable valuable metal extraction at the expense of local social and ecological systems.

The ecological systems affected by deforestation and mountain drilling are very delicate and extremely difficult to restore (*Environmental Council of Aristotle University of Thessaloniki*, 2012). Underground waters carry minerals and metals important for the sustainability of micro and macro ecosystems including plants, animals, and humans (*Benos*, 2012). Without the underground waters, plants will be unable to flourish and feed the local animal population (*Aristotle University of Environmental Council of Aristotle University of Thessaloniki*, 2012). Without food, animals will be forced to move away disturbing the ecological balance (*Lykos*, 2020). Human communities are also affected since many activities like beekeeping, tourism, and forestry are reliant upon the forest.

Despite these impacts, many people remain supportive of the mining expansion (*Velegrakis*, 2015). The long history of mining in the region is fondly described by one interview participant, who explained that “when a kid is born, the wish they give him is to grow with a lamp on his forehead” (Interview AP, May 4, 2019). However, never has a gold mine of this scale been attempted before in the area. The scale of the proposal threatens non-mining livelihoods that have previously co-existed with small-scale mining activities. To quell potential opposition the mining company has become active within communities, a standard strategy mining companies use to increase acceptance amongst local populations (*Wall & Pelon*, 2011).

An example is the Christmas village in Stratoni village (Fig. 2). The Christmas village was funded by Eldorado Gold and created by volunteers from the mining community to bring joy and teach children about local traditions. It assists in communicating the benefits mining brings to the local community and provides an avenue for the mine to build good public relations, show social responsibility and facilitate connections to people not working in mining (*Dousis*, 2017). This positioning was reproduced through mainstream media which fostered an image of Stratoni’s Christmas Village as having significant positive impacts for the local community (*Dousis*, 2017).

Initiatives like the Stratoni Christmas village disrupt simple narratives that pitch a destructive mining company against a vulnerable local community by positioning the company as caring. The mining



Fig. 2. One of the Christmas house exhibits of the Christmas village in Stratoni. (Source: Participant KS 12/4/2019 used with permission).

company's primary goal is the creation of profit for shareholders. The company also cares for its workers and the communities supported by the mine through sponsorship, investment, and providing local employment. Similarly, workers and dependent communities care for the mine. One interview participant explained that "some miners understand the destructive character large-scale mining has, but they also must feed their families. It is all about priorities" (Interview TP, May 15, 2019). The forms of care being expressed are, however, partial to the employees and shareholders, with little concern shown for the humans and nonhumans negatively affected by the mine, and it is from these disaffected groups that forms of resistance have emerged. Central to that resistance have been commoning activities bound together by the practices of *caring with*.

4.2. Care and commoning around Skouries

In this section, we explore three examples of commoning as practices of *caring with*. The first case study examines a form of commoning, the chamomile commons, that is threatened by smoothening processes associated with the mine. Existing socioecological relations and diverse ecological communities are being erased to make way for single-use, and ultimately disposable, mining landscape. Those involved in the chamomile commons value the practices of *caring with* chamomile above any economic benefits associated with the mine. The second two examples explored are the women's collective and the ten-day festival, which are forms of commoning that emerged to resist this smoothening process. Here commoning has come to be practiced as a form of collective resistance to protect existing socioecological landscapes by disrupting and challenging the processes and narratives of economic growth and mining. We trace these existing diverse and active place-based values and practices to make them more visible and considerable when thinking through political responses to the Anthropocene. The first example is the Chamomile Commons.

4.2.1. Chamomile commons

One day, I went to collect wild chamomile on Kakavos mountain near Skouries gold mine. Then an old lady saw me and told me: "stop, you are hurting them!" I did not know how to respond to that ..." The old lady then explained to me: "You know, there is a special way that you need to cut the root of the flower. But before that, you must sing to it and inform it that its life is precious. You have to show that you care for it (Interview ANI, 4/3/2019).

The participant describes a small-scale commoning activity formed around collecting chamomile on the mountain near Skouries (Fig. 3). The fertile mineral soil of Kakavos mountain is an ideal area for collecting chamomile. In this example, the chamomile is positioned as an agent endowed with personality, agency, and subjectivity that is deserving of care. The chamomile commons is comprised of old farmers and plant collectors, the chamomile, the water, the soil minerals, cutting tools, as well as techniques that sustain a local economy and livelihoods.

Public healthcare is not widely available and easily accessible in the region. Collecting chamomile is an activity that involves people who use the healing botanical properties of the plant to care for themselves and others. It helps them to survive through a local community economy (Gibson & Dombroski, 2020). People draw on the botanical life of chamomile to remedy some basic inflammatory conditions. The chamomile offers healing and therapeutical properties in return for the care of those involved in the chamomile commons. Moreover, plants like chamomile enable people to develop local knowledges that the modern pharmaceutical industry seems to have only recently utilized (Petrovska, 2012).

Decisions and practices involved in the collection of the chamomile are governed by a series of norms that are in tune with seasons and care for and with the plant. Each human member of the commons respects chamomile life cycles, and operates under collective decision-making which follows the seasonal rythmes of the plant. Around Skouries forest, chamomile is collected by a community that harvests and tends to the chamomile every spring and summer. For centuries people have grown to be attentive and careful to the plant's needs. A chamomile collector must wait for spring and summer to harvest the plant or risk failure and degradation. This anticipation gives space and time for many nonhuman species to flourish. Forest chamomile requires special attention and care to grow every year. For example, one must cut the part of the chamomile with special tools and try not to uproot the whole plant. The remaining plant will continue its reproductive circle to flourish next spring (Nature and Garden, 2020; SuperEverything, 2017). One participant notes: "it is part of our culture, older people knew by heart how long they had to wait and how to treat the chamomile for it to give back to them what it has to give" (Interview FWC, November 28, 2019). The chamomile fields are openly accessible to anyone. They are governed by informal rules known to the commoning community, including the humans and the plant, about the temporalities and processes of chamomile collection.

Mining threatens the maintenance and flourishing of the chamomile commons. The chamomile depends on the underground waters of Kakavos mountain, and the ecologies provided by the forest which are both under threat by the mining expansion. The chamomile commons are spatial and temporal, underscoring how different agents depend on secure and healthy conditions that allow them to flourish in a particular space and in their unique time frames. Practices of *caring with* holds these socio-material relations together. The chamomile is treated by participants as having unique subjectivities, material needs, and temporalities which are tended to by the commoning community.

While the chamomile commons is located in Skouries, the benefits of the common extends beyond this physical boundary (Gibson-Graham et al., 2013). Chamomile and humans produce and transfer knowledge through their activities and biophysical processes by making medicinal chamomile that moves outside the local community to local markets. The chamomile is positioned as an ethically produced product that contributes maintains and contributes to the local economy and creates relations amongst those who are involved in commoning (Interview ML, May 19, 2019). The chamomile commons is a form of place-based contestation, that embodies respect for the socio-ecological rhythms of the plant involved in the process of growing and harvesting.

Chamomile growth and collection require both intense productive periods as well as regenerative and restorative ones that are sensitive to the needs of more-than-humans. Through practices of *caring with* the chamomile, the human participants are encouraged to better understand



Fig. 3. Chamomile fields in Halkidiki peninsula. (Source: <http://halkidikiotiki-melissokomia.blogspot.com>-Open source).

the needs of the nonhumans and develop forms of empathy about and solidarity with the nonhuman world. They want to protect the commons as they are protecting themselves and their livelihoods, suggesting broader more-than-human subjectivities are being developed, as urged by Donna Haraway's (2015, 2016) writing on the Anthropocene. The chamomile commons, and many others like it provides a local rationale for resisting the gold mine as people value the pre-existing socio-ecological commons and more-than-human forms of *caring with* above the economic benefits that would lead to its erasure. Such diverse more-than-human commons inspire opposition within places threatened by Anthropocene change. The values cultivated in the chamomile commons suggest slowing down and becoming attuned to place-based processes and politics. This is far removed from the priorities of political systems preoccupied with the rapid accumulation of economic growth. Similar values are expressed in the next commoning example, the women's collective.

4.2.2. The women's collective

In small villages of Greece, like the ones in Skouries, formal economic activities are often dominated by men. However, the anti-mining struggle around Skouries gave birth to a women's collective in Ierissos

village. A group of women, who previously were primarily involved in household caregiving, decided to create a small-scale collective to promote products from the local community to show the importance of sustaining local produce threatened by large-scale mining (Fig. 4). The initiative is constituted by temporary and permanent members involved in making sweet and salty pies with local products like strawberries, apples, and cheese, produced by local producers and farmers. The women's collective is governed by organic and informal processes (Rigkos-Zitthen, 2023) of decision-making between its permanent members while temporary members are also welcome to express their opinion in some decision-making processes, such as in the organisation of local social events. Through the years this commons developed a needs-based process of decision-making responding to initiatives and issues, with an emphasis on developing caring relationships to each other and the environment. The women's collective practiced *caring with* by preparing food for the anti-mining community, volunteering to organize anti-mining events, and participating in demonstrations. Such practices assisted in facilitating an understanding that the women involved could do something that would "satisfy our ambition to do what we knew to do, to cook, and to promote the products of our land which is now threatened due to large-scale mining" (Focus Group 1,



Fig. 4. "Aristotelia Gi"-Name of the Women's collective. (Source: Author 115/4/2019).

March 13, 2019).

Practices of *caring with* brought people from diverse backgrounds closer, challenged stereotypes, and forged new relations between people who, in some cases, originally did not like each other. For example, one of the participants explained: "I thought that X was an ignorant middle-class lady. I got to know her better through our collective activities. I appreciated her willpower to contribute to the common struggle against mining" (Interview ML, May 19, 2019). Forming collective identities by challenging previous ones is a familiar phenomenon in commons struggles across the world (Felstead et al., 2019; Fotaki & Daskalaki, 2020; Nightingale, 2019; Velicu & García-López, 2018). As one of the participants of the collective pointed out: "we wanted to provide an alternative to the mining option. We wanted to show that many of our products will disappear if the large-scale mining operation starts" (Interview ML, May 19, 2019).

The economic productivity and well-being of the women's collective depended on different temporal cycles and human and nonhuman relationships. For example, the fruit grown depends on different soil temperatures, which are shaped by seasonal rhythms that different fruits need to flourish at different times of the year (Puig de la Bellacasa, 2015, 2017). The harvest season for strawberries (spring-summer) differs from the season for harvesting apples (autumn-winter). Since the women's collective use local strawberries and apples to produce products like marmalade and strawberry and apple pies, their economic activity depends on the seasons the fruit is available. Thus, there is a direct relation of dependency between the seasons, fruit, the women's collective production, and the character and orientation of this commoning example, with actors negotiating how best to facilitate the survival of "earth others" (Gibson & Dombroski, 2020). The maintenance of these small-scale commons depends on reproducing specific socio-material relations across space and time.

Despite the struggle of the women's collective to "remain detached from external capital circuits" (Interview ML, May 19, 2019), the maintenance of this commons requires capital. The women in the collective orient their energies toward generating a surplus that can provide for the livelihoods of those involved akin to a community or social economy (Gibson-Graham et al., 2016). As such, the commons has become a community economy concerned with both wealth distribution and the sustenance of livelihoods (Gibson & Dombroski, 2020). The women running the collective invest time, effort, and capital to produce the food they sell. The commons needs to be financially sustainable and produce a surplus in order to sustain those who provide the labor. Consequently, with the growth of the collective's reputation, the balance between care and economic growth shifts through time. As one participant noticed: "we started the collective to prove that we do not have to depend on mining. Nowadays, our economic prosperity secures that we can continue proving that we are a prosperous alternative" (Interview ML, May 19, 2019). As opposed to a private business, the collective does not seek to accumulate profit which is hierarchically distributed, but rather any surplus accumulated is reinvested into the collective as negotiated by the commons.

There were tensions between the commoning participants which were resolved through participatory actions and the setting up of common goals. For example, the members of the Women's Collective have different opinions about the goals and scope of the collective yet over time they came up with a plan that sought to satisfy all members. The women's collective is an example of commoning as *caring with*, which reveals how small-scale local production can be attentive to the spatiotemporal differences and needs of those who comprise the commons. This approach differs from dominant economic models that treat the environment and nonhumans as replaceable resources that should be transformed into economic value in the pursuit of growth. For many, it challenged the perception of the role of women in the local community and the village's economy (Fotaki & Daskalaki, 2020). Through the struggle against gold extraction, many women realized that they could apply the forms of knowledge and care they acquired as household

caregivers (Papada, 2014). Not only did these women realize that they had great collective power and knowledge to apply in public, but they also managed to channel it into an organisation that gave them economic power, new meanings, identities, and influence in their local community.

The new relations that the women's collective created involved *caring with* one another and the local environment. This requires attentiveness toward the spatiotemporal conditions that allow different local products to be produced. The women's collective demonstrates that economic growth and employment could be achieved in ways that spatially and temporarily sustain a long-term relationship with the socio-material conditions of their land. The vision of this commons is not limited to the mining projects' lifespan; instead, they depend on an intergenerational continuation of sustainable production. Such approaches, practices and values are also seen in the following example of the Ten-Day festival.

4.2.3. The ten-day festival

In 2009, people from Megali Panagia village formed an anti-mining group whose purpose was to discuss possible small-scale activities to oppose the establishment of mining activities in nearby Skouries Forest. By 2013 the group established an annual Ten-Day festival that included music, food, workshops, and activism to raise awareness about the destructive nature of the mine. As members from Megali Panagia stated:

The festival's goal is to communicate the anti-mining community's demands, to connect and build solidarity networks with other collective struggles across Greece and the world, and to bring people to experience and enjoy the importance of nature around Skouries. (Participant Observation 5, December 4, 2019)

The festival aims to demonstrate how important the forest in Skouries is for the local community and, through this intimate, joyful, and creative experience and social event, to draw support and attention from movements and social struggles outside the municipality (Fig. 5). Above all, the strategic purpose of this commons is to explore political alternatives based on grassroots networking.

In this example, practices of *caring with* are expressed through the activities of those involved in organizing the festival. The polyarithmus commons is consisted of temporary and permanent group members who all together make decisions in a direct democratic fashion. Decisions are made by those who participate in the commons' meetings and the voted outcomes respected by members that are absent from meetings. The Ten-day festival formed through recognizing that they are interdependent upon the forest for their wellbeing. For example, people in Megali Panagia have argued, "without the forest, the clean air, and the water, we will lose the ability to live in our village" (Participant Observation 3, May 17, 2019). Such insights were also expressed in the interviews, with one participant noting that



Fig. 5. Banner set by the anti-mining commoning group in Megali Panagia (Source: Study participant KS 12/4/2019 used with permission).

for us [Megali Panagia's anti-mining group], the forest is a vital part of our community. We get our salary from farming, beekeeping, and cattle breeding; all activities depend on the forest. Apart from that, it also protects us from floods and other physical disasters. It gives us – and protects – our life. (Participant Observation 3, May 17, 2019)

The Skouries forest, where the mine is located, is a source of life, protection, and a space that allows diverse activities and relations to flourish, including the festival. Every year the group delegates volunteering responsibilities to various members of its committee. One participant explains how,

one person is responsible for the music and technical equipment, the sound, the lights, and the placement of the speakers. This is a job performed alongside the bands who are invited to participate. Another person is responsible for finding the bands participating in the festival. Someone is responsible for the economics, while farmers from the area are invited to provide meat, potatoes, local delicacies, and drinks (Interview GD, November 7, 2019).

Organizing the Ten-Day festival takes time. Since the festival takes place at the end of July and the beginning of August, the preparations must begin in March. One participant noted that “to deal with the different tasks, an enormous amount of labour is required, as well as dedication and personal sacrifices” (Interview ATH, June 1, 2019).

Commoning as *caring with* is not only about the practical concerns of setting up the festival but also includes processes of exchanging ideas, and knowledge, building new relationships, and sharing experiences. The primary driver and common political aspiration that unites the members of the Ten-Day Festival is: “for local communities to be able to decide how to design the future [while] respecting the natural environment” (Interview GD, November 27, 2019). The members of the Ten-Day festival communicate their aspirations and visions while expanding its scale of influence to a broad community of national and international movements and individuals. Through networks beyond the local scale, it seeks to find common ground between the anti-mining struggle in Skouries and other struggles across Greece and the world that experiment with alternative locally-derived political visions. Such activities occur through roundtables and open discussions that include people from the village and outsiders who have been attracted to the event. Discussions focus on alternative ways of living and organizing that contest the logics of economic growth. The Ten Day Festival is a commons that projects the need for the local community to be engaged in alter and anti-capitalist politics and calls for local and national politics to include communities in decision-making processes to create sustainable and healthy socio-ecological systems (Riggos-Zitthen, 2023).

5. Practicing *Caring with* in the Anthropocene

In this paper, we have gone a step beyond previous work on commons and *caring with* (for example Parris & Williams, 2019), by positioning commoning and *caring with* as political responses to the destructive practices, politics and values driving Anthropocene change. Such work highlights the importance of building from already existing alternatives where values and practices have been developed at local scales to defend and restore socioecological landscapes. In this example commoning and *caring with* humans and nonhuman others is an ongoing practice that both pre-exists the mining development, in the case of the chamomile commons, and informs how resistance to the mine is expressed, in the case of the women’s collective and the Ten-Day Festival. Our case study suggests that many people are likely to be ontologically aligned to *homines curans* rather than *homo-economicus* when places they value are threatened (Tronto, 2017). We conclude with three key points derived from the case studies that can inform a politics for the Anthropocene.

First, we see value in approaching the socioecological changes associated with the Anthropocene as the planetary accumulation of

place-based decisions. While there have been discussions in the literature about planetary-scale governance and interventions in the form of geoengineering (Dryzek & Pickering, 2019), it is in particular places that the conditions of the Anthropocene are felt and reproduced. In the Skouries case, the conventional post-war development associated with the Great Acceleration, which prioritises economic growth over almost anything else, has provided the conditions for the gold mine proposal to go ahead. The mine is expected to generate income for local miners and national accounts struggling with debt, but will mostly benefit a foreign mining company and their shareholders. However, by focusing on affected communities in Skouries we have shown that efforts to create a single-use mining landscape (see Morton, 2018 on critiques of singular use) have experienced widespread resistance. The smoothening process is incomplete, experiencing ruptures and fractures as existing commons are threatened. These place-based politics of opposition and resistance to destructive developments occur across the world and suggest that values beyond economic growth are becoming more visible and articulated in the Anthropocene. People are taking action to influence and prevent decisions that contribute to planetary decline, inspired by different sets of values and practices that question the status quo. The political question that emerges is how to unite and build from place-based resistances to develop more effective opposition, or to paraphrase Massey (2005, p. 100): “how to follow the trails of other [‘Anthropocenes’], and encourage them … there is no reason why a local area’s most prominent international links should be uniquely through private capital.”

This leads to our second point which is that the values and forms of resistance in Skouries provide alternatives to the dominant norms that have driven Anthropocene degradation. Rather than being a conflict over who gets to access the economic value of a resource, as many conflicts are interpreted today, what emerged here were conflicts based on different values systems as ways of being. The oppositional groups in Skouries valued commoning and practices of *caring with*. Through the three commoning examples presented in this article, we observed a plurality of practices that cultivated new forms of relations, understandings, and ethics amongst participants. The chamomile commons is an example of how humans and nonhumans care with one another for long-term collective benefit. The women’s collective illustrates how new collective identities with seasonal rhythms and movements can emerge through growing and working with local produce. The Ten-Day festival provides an example of the ways a local community cares with one another and the forest and builds networks to collectively learn about and experiment with other forms of commoning and resistance. These forms of *caring with* are diverse, supportive and context-specific and suggest that hopeful responses to processes of planetary degradation are emerging from particular places. This is not to say that commoning provides the ‘answer’ to the Anthropocene but to say that local expressions of *caring with* can inform how politics is practiced, championing difference and diversity over homogeneity. Nor does it mean that all mining is necessarily fraught, it may well be possible to do forms of smaller scale mining in ways that are informed by principles of commoning and *caring with* that do not require the mass scale smoothening and erasure of the locally valued commons. Indeed any broader scale transition towards renewable energy requires mining (Sonter et al., 2020), however this should be pursued in ways work with rather than against local values and interests. As planetary systems degrade it is likely that community attachments to place and their ability for *caring with* will become more, rather than less, important, providing possibilities for the articulation and development of alternative forms of politics, economics and values better suited for the new epoch.

Our third concluding point concerns a politics of visibility. How can the benefits of commoning be amplified so as to contribute to new worlds in the Anthropocene? Following Gibson-Graham et al. (2016), this paper has contributed to the political task of making visible examples of commons operating against, within and beyond the logics of economic growth. Retelling such stories reveals that other ways of

living/doing/being and thinking are present in the everyday and that commons exist in our midst if we have the eyes to see them (Blomley, 2008; Williams, 2016, 2018). An apt response to the Anthropocene is to recognize and build from these diverse commoning practices and to ensure they are made visible and considerable as politics are reimagined. The Ten-Day Festival is trying to do just this, to build a coalition of actors who can communicate and explore practices of *caring with* through national and international movements. None of this is easy. The challenge of building connections and networks to maximize the impacts and profile of commoning activities whether through public, private or civil society organisations is substantial. A first step though is to articulate oppositional concepts, principles and ambitions and practice alternatives, as is the case in Skouries, and seek political change through formal and informal structures (McGregor, 2004). The dilemma of how to include commoning in formal political projects in ways that amplify rather than degrade practices of *caring with* is an open question. Decision-makers at national and international scales do not have the same more-than-human connections and understandings of place, which enables them to use abstract economic arguments over more felt or caring ones. And yet the popularity, demands and actions of social movements across the planet, particularly in traditionally conservative areas through issues like fracking, suggests that principles of *caring with* may have broader political purchase. Rather than a 'good' Anthropocene, for it is not good, as planetary systems degrade and people mobilise to protect their homes and environments and recognize and identify more with others doing the same, perhaps a more caring Anthropocene, based on different sets of values will become possible.

To conclude, the commoning examples discussed in this paper exemplify alternatives to economic growth at a local scale. However, their maintenance requires material resources and participant commitment to sustain the commons that everyday responsibilities may not allow. Small and individual social experiments alone are clearly insufficient to respond to the planetary challenges of the Anthropocene, however, the cumulative and networked possibility of such experiments may hold some potential (Buck, 2015; Coles, 2016; Coles & Suren, 2018, p. 240; Connolly, 2017). To facilitate such potential, we suggest two things. First, state institutions should engage with the alternative values being expressed and practiced by oppositional movements and assist activists and communities in strengthening and expanding practices of *caring with* through initiatives like commoning. While commoning practices often form in opposition to state practices, such as the Ten-Day Festival and the women's collective, they are mostly practiced out of view or in the shadows of state policy, as is the case for the chamomile commons. However, more effective and caring approaches to issues like public housing (Huron, 2018) and environmental protection (Gibson-Graham et al., 2016) have occurred when states have engaged with commoning. Bolliger (2016) explored state-commoning relations and identified a range of modes through which better relations could develop, such as through legal protection of commons; regional meetings to further understandings of local issues by state institutions and commoning communities; and advocacy for common assets and commoning by political parties. States can benefit from such arrangements by becoming more aware of and effective in addressing place-based concerns as a form of governance that builds political capital, while also becoming exposed to the expertise, values and practices of *caring with*, diversifying its capacity to respond to accelerating crises. As more places are threatened and more people mobilise against Anthropocene degradation, nurturing political spaces where existing alternatives can be expressed, expanded, and experimented with seems vital. The work of the community economies collective provides examples of how this can be done (e.g. Gibson-Graham et al., 2013; Healy, 2014). Second, research has a role in helping us better understand, engage with, and unravel the complexity of relations between economic growth and other values nurtured within commons. Such research can assist in learning how to be attentive to the unique socio-material relations between human and nonhuman agents evolving in the Anthropocene and how to

practice *caring with* those actors. The logics and values produced by practices of *caring with* can help enrich political institutions and design responses that reflect plurality and diversity in logics and values that derive from place. Commoning as a practice of *caring with* provides promising ways of thinking through a politics for a more caring Anthropocene in a period of existential change.

Funding

This research did not receive any grant from funding agencies in the public, commercial, or non-profit sectors.

CRediT authorship contribution statement

Ioannis Riggos-Zitthen: Writing – review & editing, Writing – original draft, Investigation. **Andrew McGregor:** Supervision, Project administration, Methodology. **Miriam J. Williams:** Writing – review & editing, Supervision, Conceptualization.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

Data will be made available on request.

Acknowledgments

We would like to recognize Professor Lars Tønder's valuable contribution to the preliminary versions of our work. His comments allowed us to reflect on how to frame our research approach and improve our overall scientific contribution.

References

- Abbots, E.-J., Lavis, A., & Luci, A. (2016). *Careful Eating: Bodies, Food and Care*. London: Routledge.
- Agrawal, A. (2003). Sustainable governance of common-pool resources: Context, methods, and politics. *Annual Review of Anthropology*, 32, 243–262.
- Alam, A., & Houston, D. (2020). Rethinking care as alternate. *infrastructur.Cities*, 100, 102662. <https://doi.org/10.1016/j.cities.2020.102662>
- Aristotle University of Thessaloniki. (2012). *Finding of the teaching members and research staff committee of the Faculty of Agriculture of AUTH*.
- Barad, K. M. (2003). Posthumanist performativity: Toward an understanding of how matter comes to matter. *University of Chicago, Journal of Women in Culture and Society*, 28(3), 31.
- Beacham, J. (2018). Organising food differently: Towards a more-than-human ethics of care for the anthropocene. *Organization*, 25(4). <https://doi.org/10.1177/1350508418777893>, 533–49.
- Bennett, J. (2010). *Vibrant matter: A political ecology of things, A john hope franklin center book*. Durham London: Duke University Press.
- Benos, A. (2012). *The impacts on health from large scale mining activities such as gold mining*. Blomley, N. (2008). Enclosure, common right and the property of the poor. *Social & Legal Studies*, 17, 311–331. <https://doi.org/10.1177/096463908093966>
- Bolliger, D. (2016). State power and commoning - transcending a problematic relationship. *HEINRICH BÖLL STIFTUNG*, 1, pp. 0–50.
- Bresnihan, P. (2016a). The more-than-human commons: Froms commons to commoning. In L. Dawney, S. Kirwan, & J. Brigittocke (Eds.), *Space, power and the commons: The struggle for alternative futures, routledge research in place, space and politics*. Routledge (pp. 93–112). London: Taylor & Francis Group.
- Bresnihan, P. (2016b). *Transforming the fisheries: Neoliberalism, nature, and the commons*. Lincoln: University of Nebraska Press.
- Bresnihan, P., & Byrne, M. (2015). Escape into the city: Everyday practices of commoning and the production of urban space in Dublin: Escape into the city. *Antipode*, 47, 36–54. <https://doi.org/10.1111/anti.12105>
- Buck, H. J. (2015). On the possibilities of a charming Anthropocene. *Annals of the Association of American Geographers*, 105, 369–377. <https://doi.org/10.1080/00045608.2014.973005>
- Citizens' Coordinating Committee of Ierissos against gold-copper mining. (2019). Beyond winning and losing: The rise of the social movement against mega-mining projects in Northern Greece. In E. Apostolopoulou, & J. A. Cortes-Vazquez (Eds.), *The right to*

- nature: Social movements, environmental justice and neoliberal natures. Routledge studies in the environmental policy.*
- Coles, R. (2016). *Visionary pragmatism: Radical and ecological democracy in neoliberal times*. Durham: Duke University Press.
- Coles, R., & Susem, S. (2018). *The pragmatic vision of visionary pragmatism: The challenge of radical democracy in a neoliberal world order: Visionary pragmatism: Radical and ecological democracy in neoliberal times* roman Coles, 2016. Durham: Duke University Press. <https://doi.org/10.1057/s41296-018-0196-5>, 9780822360643 Contemp. Polit. Theory 17, 250–262.
- Connolly, W. E. (2017). *Facing the planetary: Entangled humanism and the politics of swarming*. Durham: Duke University Press.
- Crutzen, P., & Stoermer, E. F. (2000). The 'Anthropocene'. *IGBP News*, 17–18.
- Diprose, G. (2017). Radical equality, care and labour in a community economy. *Place & Culture*, 24(6). <https://doi.org/10.1080/0966369X.2017.1339671>, 834–50.
- Dombroski, K., Diprose, G., & Boles, I. (2019). Can the commons be temporary? The role of transitional commoning in post-quake Christchurch. *Local Environment*, 24(4). <https://doi.org/10.1080/13549839.2019.1567480>, 313–28.
- Dousis, T. (2017). *Το μαγικό Χριστουγεννιάτικο χωρίο της Ελλάδας με είσοδο...μόνο 2 χρημάδελα!!* [WWW document]. Travelstyle. URL <https://www.travelstyle.gr/paramuthoxwra-xalkidikhs-xristougenniatiko-xwrio/>.
- Dryzek, J. S., & Pickering, J. (2019). In *The politics of the anthropocene* (1st ed.). Oxford, United Kingdom ; New York: Oxford University Press.
- Eckersley, R. (2018). *Anthropocene raises risks of Earth without democracy and without us* [WWW Document]. The Conversation. URL <https://theconversation.com/anthropocene-raises-risks-of-earth-without-democracy-and-without-us-38911>, 11, 22.19.
- Eisenberg, E. (2012). Actually existing commons: Three moments of space of community gardens in New York city. *Antipode*, 44, 764–782. <https://doi.org/10.1111/j.1467-8330.2011.00892.x>
- Eldorado Gold. (2011). *Skouries Cu/Au project, Greece NI 43-101 technical report*.
- Eldorado Gold. (2018). *Technical report Skouries project Greece*.
- Environmental Council of Aristotle University of Thessaloniki. (2012). *Recommendation of the committee for the mining activity in northern halkidiki*.
- Escobar, A. (2018). *Designs for the pluriverse: Radical interdependence, autonomy, and the making of worlds, new ecologies for the twenty-first century*. Durham: Duke University Press.
- Federici, S., & Beatriz. (2014). In *Caliban and the witch* (2., rev. ed. ed.). New York, NY: Autonomedia.
- Felstead, A., Thwaites, K., & Simpson, J. (2019). A conceptual framework for urban commoning in shared residential landscapes in the UK. *Sustainability*, 11, 6119. <https://doi.org/10.3390/su11216119>
- Fotaki, M., & Daskalaki, M. (2020). Politicizing the body in the anti-mining protest in Greece. *Organization Studies*, , Article 017084061988295. <https://doi.org/10.1177/017084061988295>
- Gibson, K., Rose, D. B., & Fincher, R. (Eds.). (2015). *Manifesto for living in the anthropocene*. Brooklyn, NY: Punctum Books.
- Gibson, K., & Dombroski, K. (Eds.). (2020). *The Handbook of Diverse Economies*. Cheltenham, UK Northampton, MA: Edward Elgar Publishing.
- Gibson-Graham, J. K. (2008). Diverse economies: Performative practices for 'other worlds'. *Progress in Human Geography*, 32, 613–632. <https://doi.org/10.1177/0309132508090821>
- Gibson-Graham, J. K. (2011). A feminist project of belonging for the Anthropocene. *Gender, Place & Culture*, 18, 1–21. <https://doi.org/10.1080/0966369X.2011.535295>
- Gibson-Graham, J. K., Cameron, J., & Healy, S. (2013). *Take back the economy: An ethical guide for transforming our communities*. University of Minnesota Press. <https://doi.org/10.5749/minnesota/9780816676064.001.0001>
- Gibson-Graham, J. K., Cameron, J., & Healy, S. (2016). Commoning as a postcapitalist politics. In *Releasing the commons rethinking the futures of the commons* (pp. 1–23). Routledge, Taylor & Francis Group.
- Grear, A. (2020). Resisting Anthropocene neoliberalism: Towards new materialist commoning?. In *The great awakening* (pp. 317–357). Earthe, Milky way: Punctum Books.
- Hamilton, C. (2013). *Earthmasters: The dawn of the age of climate engineering*. New Haven, Conn: Yale Univ. Press.
- Haraway, D. (2015). Anthropocene, capitalocene, plantationocene, chthulucene: Making kin. *Environmental Humanities*, 6, 159–165. <https://doi.org/10.1215/22011919-3615934>
- Haraway, D. J. (2016). *Staying with the trouble: Making kin in the chthulucene, experimental futures: Technological lives, scientific arts, anthropological voices*. Durham: Duke University Press.
- Healy, S. (2014). The biopolitics of community economies in the era of the Anthropocene. *Journal of Political Ecology*, 21, 210. <https://doi.org/10.2458/v2li1.21133>
- Huron, A. (2015). Working with strangers in saturated space: Reclaiming and maintaining the urban commons: The urban commons. *Antipode*, 47, 963–979. <https://doi.org/10.1111/anti.12141>
- Huron, A. (2018). *Carving out the commons: Tenant organizing and housing cooperatives in Washington, D.C., diverse economies and livable worlds*. Minneapolis: University of Minnesota Press.
- Karagianni, M. (2023). The urban political ecology of the commons or commoning as a socio-natural process: The case of the Peri-Urban Gardening group in Thessaloniki. *Urban Studies*, , Article 420980231202874. <https://doi.org/10.1177/00420980231202874>
- Latour, B. (2004). Why has critique run out of steam? From matters of fact to matters of concern. *Critical Inquiry*, 30, 225–248. <https://doi.org/10.1086/421123>
- Lawrence, C., & Churn, N. (Eds.). (2012). *Movements in time: Revolution, social justice, and times of change*. Newcastle upon Tyne, UK: Cambridge Scholars Publishing.
- Lawson, V. (2007). Geographies of care and responsibility. *Annals of the Association of American Geographers*, 97, 1–11. <https://doi.org/10.1111/j.1467-8306.2007.00520.x>
- Lefebvre, H. (2004). *Rhythmanalysis: Space, time, and everyday life*. London ; New York: Continuum.
- Linebaugh, P. (2008). *The magna carta manifesto: Liberties and commons for all*. Berkeley: University of California Press.
- Lykos, V. (2020). *The next pandemics are here! [WWW document]*. Documento.gr. URL https://www.documentonews.gr/article/oi-epomenes-pandhmes-einai-edw?fbclid=IwAR3Zc86zv-ViAJ58if_SD_b_9jZojVNxs7obxpuGNltayQQaxNWSJ5VmBdMU,5.15.20
- Massey, D. B. (2005). *For space*. London ; Thousand Oaks, Calif: SAGE.
- McDowell, L. (2004). Work, workfare, work/life balance and an ethic of care. *Progress in Human Geography*, 28, 145–163. <https://doi.org/10.1191/0309132504ph478oa>
- McFarlane, C. (2009). Translocal assemblages: Space, power and social movements. *Geoforum*, 40, 561–567. <https://doi.org/10.1016/j.geoforum.2009.05.003>
- McGregor, A. (2004). Doing groups: Situating knowledge and creating stories. *Australian Geographer*, 35, 141–149. <https://doi.org/10.1080/0004918042000249449>
- Meynen, N. (2019). *Frontlines: Stories of global environmental justice*. Ridgefield, CT: Zero Books.
- Morton, T. (2018). Dark ecology: For a logic of future coexistence. In *The Wellek library lectures in critical theory* (Paperback edition). New York: Columbia University Press.
- Murray Li, T. (2007). Practices of assemblage and community forest management. *Economy and Society*, 36, 263–293. <https://doi.org/10.1080/03085140701254308>
- Nature and Garden. (2020). *Chamomile - growing, harvest and health benefits and therapeutic value* [WWW Document]. Nat. Gard. URL <https://www.nature-and-garden.com/gardening/chamomile.html>, 11, 29.20.
- Nightingale, A. J. (2019). Commoning for inclusion? Commons, exclusion, property and socio-natural becomings. *International Journal of the Commons*, 13, 16. <https://doi.org/10.18352/ijc.927>
- Noterman, E. (2016). Beyond tragedy: Differential commoning in a manufactured housing cooperative: Beyond tragedy. *Antipode*, 48, 433–452. <https://doi.org/10.1111/anti.12182>
- Ostrom, E. (2015). *Governing the commons: The evolution of institutions for collective action*. Canto classics. Cambridge, United Kingdom: Cambridge University Press.
- Panayiotopoulos, K. (2017). *Legends and reality for the mines in North East halkidiki* [WWW document]. Capital.gr. URL <https://www.capital.gr/artha/3190674/muthoi-kai-pragmatikotita-gia-a-metalleia-sti-b-a-xalkidiki>, 5.15.20.
- Popada, E. (2014). *Greece, Skouries: A story of political emancipation*. X-Press. Open J. URL http://www.x-pressed.org/?xpd_article=skouries-a-story-of-political-emancipation, 2.4.18.
- Parris, D., & Williams, M. (2019). Care-full commoning at the old church on the hill, Bendigo. *Australian Geographer*, 50, 531–546. <https://doi.org/10.1080/00491822.2019.1682289>
- Petrovska, B. (2012). Historical review of medicinal plants' usage. *Pharmacognosy Reviews*, 6, 1. <https://doi.org/10.4103/0973-7847.95849>
- Power, E. R. (2019). Assembling the capacity to care: Caring-with precarious housing. *Transactions of the Institute of British Geographers*, 44, 763–777. <https://doi.org/10.1111/tran.12306>
- Power, E. R., & Bergan, T. L. (2019). Care and resistance to neoliberal reform in social housing. *Housing, Theory and Society*, 36(4). <https://doi.org/10.1080/14036096.2018.1515112>, 426–47.
- Power, E. R., & Mee, K. J. (2020). Housing: an infrastructure of care. *Housing studies*, 35 (3), 484–505. <https://doi.org/10.1080/02673037.2019.1612038>
- Power, E. R., & Williams, M. J. (2020). Cities of care: A platform for urban geographical care research. *Geography Compass*, 14(1). <https://doi.org/10.1111/gec3.12474>
- Power, E. R., & Williams, M. J. (2020). Cities of care: A platform for urban geographical care research. *Geography Compass*, 14. <https://doi.org/10.1111/gec3.12474>
- Power, E. R., Wiesel, I., Mitchell, E., & Mee, K. J. (2022). Shadow care infrastructures: Sustaining life in post-welfare cities. *Progress in Human Geography*, 46(5). <https://doi.org/10.1177/03091325221109837>, 1165–84.
- Puig de la Bellacasa, M. (2015). Making time for soil: Technoscientific futurity and the pace of care. *Social Studies of Science*, 45, 691–716. <https://doi.org/10.1177/0306312715599851>
- Puig de la Bellacasa, M. (2017). *Matters of care: Speculative ethics in more than human worlds*. Minneapolis: Posthumanities. University of Minnesota Press.
- Richardson, K., Steffen, W., Lucht, W., Bendtsen, J., Cornell, S. E., Donges, J. F., Drücke, M., Fetzer, I., Bala, G., Von Bloh, W., Feulner, G., Fiedler, S., Gerten, D., Gleeson, T., Hofmann, M., Huiskamp, W., Kummu, M., Mohan, C., Nogués-Bravo, D., ... Rockström, J. (2023). Earth beyond six of nine planetary boundaries. *Science Advances*, 9, Article eadh2458. <https://doi.org/10.1126/sciadv.adh2458>
- Riggos-Zitthen, I. (2023). Commoning in the Anthropocene: Responding to large-scale mining through practices of collective care. The case of Skouries, Halkidiki, Greece. <https://doi.org/10.25949/22217611.V1>
- Schrader, A. (2012). The time of slime: Anthropocentrism in harmful algal research. *Environmental Philosophy, International Association for Environmental Philosophy*, 9, 71–93. <https://doi.org/10.5840/envirophil2012915>
- Sevenhuijsen, S. (1998). *Citizenship and the ethics of care: Feminist considerations on justice, morality, and politics*. London ; New York: Routledge.
- Sevenhuijsen, S. (2003). The place of care: The relevance of the feminist ethic of care for social policy. *Feminist Theory*, 4, 179–197. <https://doi.org/10.1177/14647001030042006>
- Singh, N. M. (2017). Becoming a commoner: The commons as sites for affective socio-nature encounters and Co-becomings. *Ephemera: theory and politics in organization*, 17, 751–776.

- Smith, M. (2001). Repetition and difference: Lefebvre, Le Corbusier and modernity's (Im) moral landscape. *Ethics, Place & Environment*, 4, 31–44. <https://doi.org/10.1080/13668790123378>
- Sonter, L. J., Dade, M. C., Watson, J. E. M., & Valenta, R. K. (2020). Renewable energy production will exacerbate mining threats to biodiversity. *Nature Communications*, 11, 4174. <https://doi.org/10.1038/s41467-020-17928-5>
- SoSHalkidiki. (2013). *Halkidiki mines: Impacts*.
- Steffen, W., Broadgate, W., Deutsch, L., Gaffney, O., & Ludwig, C. (2015). The trajectory of the Anthropocene: The great acceleration. *Anthropological Review*, 2, 81–98. <https://doi.org/10.1177/2053019614564785>
- SuperEverything. (2017). *Wild chamomile: How, when and where to collect and dry it [WWW document]*. Super Everything. URL <https://www.supereverything.gr/2017/05/agrio-xamomili.html>, 9.4.20.
- Swyngedouw, E., & Ernstson, H. (2018). Interrupting the Anthropo-obScene: Immunobiopolitics and depoliticizing ontologies in the Anthropocene. *Theory, Culture & Society*, 35, 3–30. <https://doi.org/10.1177/0263276418757314>
- Tronto, J. C. (1993). *Moral boundaries: A political argument for an ethic of care*. New York: Routledge.
- Tronto, J. C. (2013). *Caring democracy: Markets, equality, and justice*. New York: New York University Press.
- Tronto, J. C. (2015). *Who cares? How to reshape a democratic politics*. Ithaca: Cornell Selects, an imprint of Cornell University Press.
- Tronto, J. C. (2017). There is an alternative: Homines curans and the limits of neoliberalism. *International Journal of Care and Caring*, 1, 27–43. <https://doi.org/10.1332/239788217X14866281687583>
- Tronto, J. C., & Fisher, B. (1991). *Toward a feminist theory of caring, circles of care : Work and identity in women's lives*. Albany, N.Y.: State University of New York Press.
- Velegakis, G. (2015). Gold extraction in Halkidiki, Greece and local reaction: An analysis of the election results in the Aristotle Municipality. *Geographies*, 77–92.
- Velicu, I., & García-López, G. (2018). Thinking the commons through Ostrom and butler: Boundedness and vulnerability. *Theory, Culture & Society*, Article 26327641875731. <https://doi.org/10.1177/0263276418757315>
- Wall, E., & Pelon, R. (2011). *Sharing mining benefits in developing countries* (Vol. 21, p. 72). World Bank.
- Williams, M. J. (2016). Justice and care in the city: Uncovering everyday practices through research volunteering. *Area*, 48, 513–520. <https://doi.org/10.1111/area.12278>
- Williams, M. J. (2018). Urban commons are more-than-property: Urban commons are more-than-property. *Geographical Research*, 56, 16–25. <https://doi.org/10.1111/1745-5871.12262>
- Williams, M. J. (2020). The possibility of care-full cities. *Cities*, 98, Article 102591. <https://doi.org/10.1016/j.cities.2019.102591>
- Williams, M. J., & Tait, L. (2023). Diverse infrastructures of care: Community food provisioning in Sydney. *Social & Cultural Geography*, 1–21. <https://doi.org/10.1080/14649365.2022.2056630>
- Zalasiewicz, J., Williams, M., Haywood, A., & Ellis, M. (2011). The Anthropocene: A new epoch of geological time? *Philosophical Transactions Royal Society: Mathematical, Physical and Engineering Sciences*, 369, 835–841. <https://doi.org/10.1098/rsta.2010.0339>
- Zapata Campos, M. J., Zapata, P., & Ordoñez, I. (2020). Urban commoning practices in the repair movement: Frontstaging the backstage. *Environment and Planning A: Economy and Space*, 52, 1150–1170. <https://doi.org/10.1177/0308518X19896800>
- Ioannis Riggos-Zitthen is a Political Geographer by training. He has a Ph.D. in Political science from the University of Copenhagen, Denmark, and a Ph.D. in Human Geography from Macquarie University, Australia. His work focuses on the relationship between Commoning, the Anthropocene, and Democracy. The major question that drives his academic research is: How can we sustain and enrich democracy in the Anthropocene? The researcher focuses on commons and commoning as a potential response to this question by suggesting that the new geological epoch requires new political institutions inspired by local communities' values, priorities, and practices of collective care.
- Andrew McGregor is a human geographer who studies human-environment interactions in Australia and Southeast Asia. His research explores innovative responses to global environmental change. He is particularly interested in contributing to developing more ethical, just, and resilient multispecies societies concerning food and forests. Currently, he has two main research programs undergoing.
- Miriam J. Williams is an urban cultural geographer whose work focuses on care, justice, sustainability, diverse economies, and commons in the city. She is a Senior Lecturer in Geography and Planning at Macquarie University. Her work focuses on making urban life more just and caring for people and the planet. She is currently the convenor of the research working group for the discipline of Geography and Planning at the Macquarie School of Social Sciences. She is a member of the Community Economics Institute and the Community Economics Research Network (International).