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DOI

[10.18352/ijc.918](https://doi.org/10.18352/ijc.918)

Publication date

2019

Document Version

Final published version

Published in

International Journal of the Commons

Citation (APA)

Tummers, L., & Macgregor, S. (2019). Beyond wishful thinking: a FPE perspective on commoning, care, and the promise of co-housing. *International Journal of the Commons*, 19(1), 62-83.
<https://doi.org/10.18352/ijc.918>

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Beyond wishful thinking: a FPE perspective on commoning, care, and the promise of co-housing

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Abstract: Co-housing has re-emerged in European cities as a model of common dwelling that aims to be ecologically and socially sustainable. Although it is the subject of growing academic interest, there are significant gaps in knowledge and wishful thinking about its promise that is not substantiated by evidence. We examine co-housing from a feminist political ecology (FPE) perspective with the aim of contributing to research on co-housing, and commoning more generally, as alternative practices in affluent Global North cities. Drawing on extensive research on co-housing in Europe and our observations from joint visits to four co-housing projects in the Netherlands and the UK, we cast critical feminist light on sharing practices at the level of the collectivized household. In addition to identifying synergies and tensions between FPE and recent literature on the radical promise of commoning, we raise questions about the extent to which the seeds of transformative, post-capitalist *and* post-patriarchal change are being sown in actually existing co-housing projects. We conclude with questions toward an agenda for co-housing research that moves beyond wishful thinking.

Keywords: Co-housing, commons/commoning, gender justice, intersectionality, social reproduction

Acknowledgement: This paper is the product of an equal research collaboration; the name order does not imply main/secondary authorship. Our thanks go to the many co-housing residents who shared knowledge about their projects with us,

and to Dorit Fromm and Els de Jong for including some of our questions in their survey. Our fieldwork was generously funded by the Sustainable Consumption Institute, University of Manchester. We are grateful to the editors and anonymous reviewers for their constructive feedback and suggestions.

1. Introduction

Studying the commons requires starting from a position of optimism. From Kropotkin to Ostrom, scholars of the commons have taken humans' ability to cooperate to be both natural and necessary for survival. Such premises are at odds with an arguably more accepted belief, handed down from Hobbes through to Hardin, in individualism and the inevitability of human conflict. Consequently, the 'tragedy of the commons' seems unavoidable; pessimism that now underpins neoliberal ideology. To some extent, therefore, commons theorizing is a form of 'wishful thinking'. Yet, in a particular strand of commons research, the practice of 'commoning' plays a pivotal role in strategies for overcoming the vagaries of neoliberalism and visions of transition to a post-capitalist society. Here, commoning is understood as an ongoing process of people coming together to create the environments they want to inhabit when the state and the market fail to deliver. Although these practices can be observed in a diversity of places around the world, it is to the relatively new scholarship on commoning in European cities that we aim to contribute with this article. To do so, we focus on co-housing: common dwelling clusters that are created and/or managed collaboratively by residents' associations.

Having re-emerged in Europe, largely in response to 21st century housing and environmental concerns, co-housing has increasingly attracted the interest of academics (Tummers 2016). These predominantly optimistic scholars claim that by building-in the sharing of space, time and resources, co-housing has potential to reduce waste and emissions at the same time as increasing social cohesion and resilience (Jarvis 2011; Sargisson 2012; Chatterton 2016; Daly 2017). Collective forms of housing have long been of interest to feminist thinkers because of their potential to transform traditional gender roles by sharing domestic labour (Hayden 1979; Horelli and Vepsä 1994; Sangregorio 1995, 2010). The expectation is that tasks associated with necessary daily care and provisioning – what feminist theorists call 'social reproduction' – can be negotiated democratically and shared equally within a group rather than being an undervalued job for individual women in private dwellings (Hayden 1980; Spain 1995). On the surface, then, co-housing seeks to put into practice the ideas of collectivization and sustainability that are shared by feminist political ecology (FPE) and commoning research. However, despite reports of successful case studies, the co-housing literature relies on insufficient evidence to support wishful thinking about feminist concerns for gender justice. From an FPE perspective, there is a lack of serious attention to the question of whether

co-housing projects uproot entrenched social injustices that are part of the same system that enclosed the commons in the first place. For feminists, this raises important questions and, in what follows, we focus on the troubling silence about the politics of care and gendered distribution of caring labour in the available research. Along with other feminist scholars, we note that this silence seems to be as evident in scholarship on co-housing as it is in the growing body of literature on alternatives to neoliberal capitalism (Bauhardt 2014; Akbulut 2017).

We offer a critical analysis of co-housing through an FPE lens. We argue that feminist insights reveal essential omissions in dominant understandings of commoning and we provide a theoretically and empirically informed response that is relevant to both co-housing and commons scholars. Drawing on Tummers' extensive research on co-housing in Europe (Tummers 2015, 2016, 2017) and MacGregor's scholarship on feminist green politics (MacGregor 2014, 2017), and our observations from fieldwork we conducted together at four co-housing projects in the Netherlands and the UK, we cast new light on sharing practices at the level of the collectivized household. Our findings suggest that co-housing as a practice of commoning falls short of its transformative potential if it does not address the politics of social reproduction.

In the next section, we define key terms and identify themes in both commons and FPE scholarship before presenting a feminist theoretical framework that prepares us for the discussion of co-housing as a promising practice of commoning. In section two, we provide reasons for why housing in general should be included within a commons frame, and why co-housing is especially relevant to an FPE approach to commoning. Section three explains our methods and empirical material, with which we analyse in how far wishful thinking about transformative eco-social change materializes in actually-existing co-housing projects. We conclude with questions towards a research agenda for co-housing research that might move beyond wishful thinking.

2. FPE, commoning and care

FPE is an interdisciplinary and multi-focal lens that applies key insights from feminist geographical, ecofeminist, and gender, environment and development scholarship (among others) to critically analyze the human-environment nexus. Although there is no universal definition, what all feminist political ecologists share is an interest in how gendered power relations combine with other axes of inequality, such as race, class and caste, to shape the material and ideological contours of environmental politics (Rocheleau et al. 1996; Elmhirst 2011; Heynen 2018). We begin by explaining how the FPE perspective that we bring to our research intersects with how commoning is presented in the equally broad field of commons studies. Then, by identifying the points at which FPE and commons theory diverge, we go on to identify what FPE brings to the analysis of co-housing as a practice of commoning.

The strand of commons thinking we are engaging with comes primarily from critical geographers who are interested in how commoning practices might challenge and replace the destructive, unsustainable conditions of capitalism. There are three significant points of connection between FPE and this recent scholarship on commoning.¹ The first is the move to give as much attention to human-environment relations in affluent, urban contexts as has been paid to poor, rural contexts. Commons scholarship traditionally has had a development focus, with the bulk of research conducted in the Global South. Similarly, research in the field of FPE until recently has been dominated by case studies situated in rural regions of developing countries (Hawkins 2012). Partly in response to criticisms from decolonial theorists and in recognition of climate breakdown, there has been a move in both fields to look at how practices in high income societies are drivers of eco-political crises as well as how these damaging practices might be discontinued. Designing alternatives to the current systems and structures that ‘lock in’ overconsumption, alternatives that might enable the rich to exercise greater responsibility for redressing the ecological crisis, is an important part of the climate justice agenda. This is why both FPE and commons scholarship share a second feature, which is to critically investigate actually existing strategies and experiments for living together more sustainability in rich cities of the Global North (Gibson-Graham 2011; Chatterton 2016; Pickerill 2016; Schalk et al. 2017).

A third point of intersection between the two fields is the growing desire to move away from treating ‘nature’ as a resource to be managed collectively as opposed to being privately owned. Recent work shares an embrace of non-binary understandings of ‘naturecultures’ that regards relationships between humans and ‘Earth others’ as ‘a cornerstone of continuing to live well with all of these “others” on a changing planet’ (Neimanis et al. 2015, 83). FPE scholars draw on ecofeminist theoretical roots to value all life-sustaining labour and to advocate an ethical relationship with other species and the natural world (Mies 1986; Di Chiro 2017). Within commons scholarship too, the shift from commons as a noun to writing about commoning as a practice is emblematic of this position (Bresnihan 2016). In addition, several commons scholars reject the concept of ‘resource management’ and present commoning as a process of caring, sharing and sustaining in the name of ecological justice (see Kirwan et al. 2016). As Silke Helfrich states: ‘The commons approach is the only one I know of that connects environmental stewardship with claims for justice and the strengthening of freedom’ (2016, online). The point of connection here is the development of ways of living that reduce human-induced harm and increase ethical, caring relationships between humans and the more-than-human world (Bresnihan 2016).

¹ When we refer to commons scholarship we are referring to this strand of recent writing on forms of commoning as alternatives to capitalism that aim to be ecologically sustainable and socially just. We acknowledge that the commons field with which this journal has been primarily engaged is broader and more diverse than we are able to present here.

While these synergies make our analysis of co-housing interesting to pursue, it is on the terrain of caring that this neat alignment begins to diverge. Care as commons stewardship is a much narrower understanding of care than that which takes centre stage in FPE. FPE has from its beginnings sought to point out how power asymmetries and the construction of social norms and identities are reproduced according to patriarchal interests. This involves using the tools of feminist analysis to ‘complicat[e] arenas of assumed common interest: “community”, “local”, and “household”’ (Rocheleau 2008, 722 in Elmhirst 2011, 129). On our reading, much of the commons literature referred to above advocates sharing, caring and ecological ethics as essential features of commoning, but tends to background gender power relations among humans and the unjust distribution of care. Two recent collections of commons scholarship illustrate this claim (see Bollier and Helfrich 2015; Kirwan et al. 2016). Most notably, the presentation of caring in this strand of commons scholarship tends to be depoliticized, by which we make the feminist point that it is often presented as a celebrated ethos and/or a practice that all people engage in, one that rarely involves gendered conflict or injustice. Caring is almost always presented as *a practice* but rarely as work. This tendency has also been observed by feminist critics of degrowth scholarship. It is problematic because, as Akbulut (2017) argues, identifying care as central to sustainable, post-capitalist societies does not imply an interest in the fundamental transformations needed to achieve gender justice.

Feminists have criticized many socialist visions of communal living for failing to imagine a non-patriarchal configuration of everyday life in families and communities (Hayden 1979, 1980; Mellor 1992). For decades, feminists – even Marxist feminists – have expressed disagreement with aspects of Marxism due to the feminist political commitment to gender justice, central to which is the claim that there should be fairness in the distribution of reproductive labour that makes capitalism – and human life itself – possible (Hartmann 1979). From some feminist perspectives, social reproduction refers to the labour required to sustain and care for a group of people and their social bonds on a daily basis, and to ensure the regeneration of society over time.² There is an extensive body of feminist literature on social reproduction that mobilizes a materialist analysis of labour as a mediating force between humans and nature (Salleh 1995; Mellor 1997; Federici 2004). It is a feminist goal to end the association of women and social reproduction, wherein both are devalued and exploited for the benefit of capitalism (Bauhardt 2014; Akbulut 2017). As Akbulut (2017) writes: ‘*carework has historically been one of the most exploitative, flexible and invisible forms of labor performed by women*’ (original italics; online).

While not wishing to reject the importance of care for the more-than-human in times of ecological crisis, we must not overlook the existence of a ‘crisis of social reproduction’ that is causing serious harm in all societies, including

² There is no single, agreed-upon definition and much interesting debate over the meaning of social reproduction among feminists.

rich parts of Europe (Fraser 2016). Current figures for OECD countries indicate that ‘...women spend on average between three and six hours on unpaid care activities’ for every half to two hours that men spend (Alber et al. 2017, 69). This means that in spite of over 40 years of feminist demands, fairness in the gender division of carework are far from being achieved, even in countries with equality laws and welfare states. In fact, demographic changes, changes in employment and life-course patterns, and the neoliberal erosion of state-funded social services mean that there is a growing need for care in Western societies, much of which is downloaded to households. In many parts of the world, the effects of a changing climate – from droughts and floods to rising prices and declining resources – are making the work of caring even more challenging. These conditions result in an intensification of inequality worldwide, with women carers from the Global South over-represented among the precarious workers in global care chains (Sassen 2000). Thus, feminist analyses of social reproduction are increasingly referring to the ‘interlocking crises’ of capitalism, climate change and care that need to be solved via joined-up alternatives (Bauhardt 2014; Fraser 2016).

Asserting that the transformation of carework is central to tackling these entangled crises, and the growing disparities associated with them, we argue for an approach that includes two inherently feminist political concerns to ongoing discussions of commoning:

- i) how carework is done and by whom (‘commoning reproduction’); and
- ii) how carework is valued and politicized in society (‘caring democracy’).

In a later section, we discuss how these ideas, combined with the ecological ethics that are well developed in FPE scholarship, sow the seeds of a more inclusive understanding of commoning.

i) ‘Commoning reproduction’

Caring for people is generally seen as a common good – labour that is largely provided for free, without which economic activity would be impossible. As Nancy Folbre writes: ‘children, like the environment, are a public good’ (1994, 254). A significant proportion of carework is performed in households, in a sphere marked as private. The concept of ‘home’ as both private property and a private space for an exclusive group of people (called ‘a family’) is a relatively recent invention. Like the enclosure of land, the enclosure of communities into the so-called family home was instrumental to the rise of the capitalist economy because it enabled the development of the roles and relations necessary for the reproduction of labour and consumption of products (Salleh 1995). These roles and relations became socially and spatially segregated, leading to distinctions between production and consumption as well as to the gendered division of paid and unpaid labour.

Many FPE scholars draw on the work of commons theorist Silvia Federici, who provides theoretical tools for understanding the historical interrelations between patriarchy, capitalism and the enclosure of the commons. We apply her concept of ‘commoning reproduction’ (Federici 2012a,b) to our project because it combines critical analysis and hopeful vision. She argues that, as those responsible for reproductive work, women have historically been most hurt by the privatization of the commons and most committed to its defence. For her, commoning reproduction means pooling the resources and re-appropriating the wealth that women have produced through their caring labour. Federici asserts that ‘...the production of commons requires first a profound transformation in our everyday life, in order to recombine what the social division of labor in capitalism has separated’ (Federici 2012a, online). This transformation will involve ‘the communalization of housework’ in order to break open the gendered structures that determine how Western men and women have lived since capitalist enclosure.

Although there are few examples of this transformative process in rich-world contexts, squats, community gardens and kitchens, co-housing, and ‘various forms of barter, mutual aid [and] alternative forms of health care’ may be signs that ‘a new economy is beginning to emerge that may turn reproductive work from a stifling, discriminating activity into the most liberating and creative ground of experimentation in human relations’ (Federici 2012a, online). Federici regards the re-collectivization of reproduction as a strategy that can tackle feminized poverty as well as building ‘new communities based on quality relations, principles of cooperation and responsibility: to people, to the earth, animals’ (ibid). Here she foregrounds an increasingly central FPE concern with the intersections of human and more-than-human life (Gibson-Graham 2011). Because Federici is an autonomist Marxist-feminist she does not offer a political programme for treating care-work as a form of commoning in neoliberal democracies: she cannot imagine a space for commons within capitalism or the state. For theorizing on how such a transformation might come about within contemporary democratic societies, we turn to the political theorist Joan Tronto.

ii) ‘Caring democracy’

Tronto’s central concern is to see care as a basic human need, a common good upon which democracy, another highly-valued common good, depends. Though she does not identify as an FPE scholar, her work has significant resonances with an FPE perspective, and we suggest that her concept of caring democracy can help us to think about the political processes needed to treat care as a practice of commoning (i.e. to bolster the ‘P’ in FPE). Tronto argues that it is partly because care has not been treated as central to collective life that democratic institutions are failing to tackle the existential threats of our time. In neoliberal societies, the simultaneous embrace of individualism and responsabilization has resulted in a culture where it is assumed that each person is only responsible for their own lives. The invisibility of necessary carework is so vital to the myth of neoliberal

individualism that it has become even more deeply entrenched to the point of denial (Tronto 2013, 104–105). This culture of externalizing ecological costs and free-riding on the caring labour of others needs to be changed if a truly inclusive, caring democracy is to be achieved – along with its signature features of justice, solidarity and equality.

Carework has been depoliticized in non-feminist discussions of commoning, we suggest, because it is a taken-for-granted, often naturalized, part of everyday life. One exception is Linebaugh's (2008) discussion of 'invisible labours of reproduction' as an important dimension of the human workforce, which seems to be interpreted as the labours of the more-than-human in more recent commoning literature (see for example Bresnihan 2016; de la Bellacasa 2010 in Bresnihan 2016; Dawney et al. 2016). Without denying the value of intersectional theorizing that includes non-human nature, it appears to us that challenges to an unfair division of necessary labour among gendered humans continues to be best addressed by feminists, both in theorizing and social movements. This concern is accompanied by recognition that intersections of gender, race, class, ability, age (and more) shape the positioning and experience of those performing carework. Tronto is clear that caring is feminized in all societies while at the same time stressing the central part that intersectional analysis plays 'in the full picture of care' (2013, 68). Importantly, however, intersectionality often focuses more on the oppressed and marginalized than on the privileged (Kaijser and Kronsell 2013; Buckingham and LeMasson 2017). Tronto therefore makes the crucial point that men's (and elite women's) ability to use their social privilege as 'passes' out of being responsible for carework, rests upon 'epistemological ignorance' (33, 58) that allows questions about care to go unasked.

To change this imbalance, and to foster a 'democratic care revolution', Tronto says that: 'everyone, from the richest to the poorest, from the most self-reliant to the most dependent, has to sit down at the table and be involved in the renegotiation of caring responsibilities' (Tronto 2013, 170). Like other feminist scholars, she thereby underscores the need to regard care as a practice of commoning that is unavoidably political. The question she does not consider, and one that we wish to pursue through our examination of co-housing, is what kind of daily living arrangement can make this kind of negotiation not only possible but expected and normal? Transforming the socio-spatial conditions in which carework is performed is an important goal for an FPE approach to commoning. This is why we see co-housing is an important object of research. Co-housing, more than either owner-occupation or private rental housing, has potential for addressing the democratization and visibility of carework.

3. Co-housing as commoning

A concern for housing may seem contradictory for commons research because housing is more often associated with privacy and property than with sharing and collectivization. But there is a small space of overlap between commons research and housing in the work of scholars researching examples of people joining forces

to 'materialise the commons' (Pickerill 2016, 31) in eco-villages, intentional communities, and co-housing. There are two good reasons for connecting commoning and housing: first is the fact that all over Europe, the number of co-housing initiatives is rising. Second is that the feminist critique of the private-public dichotomy, which started with Rosaldo (1980) in the 1980s, remains a central theme for FPE research (cf. Bauhardt and Harcourt 2018).

The housing sector in most parts of the world is in crisis, urgently requiring solutions. By 2025 a billion and a half people will lack access to secure and affordable housing (King et al. 2017). In high income countries, where provision of housing was once the backbone of post-war welfare states, social housing has been eroded in recent decades of neoliberal restructuring; bringing an intensified commodification and shortage of affordable housing (Larsen and Hansen 2015; Nieboer and Gruis 2016). Demographic changes, such as an aging population and inward migration, have produced relative poverty and precarity, especially among the younger generation who are increasingly pushed to the urban periphery. More importantly, the land use and forced mobility of urban sprawl are known to be counter-productive to reaching the goals set out in various international agreements. All of this brings housing back onto the agenda as a common good, whose access has to be regulated to some extent by the state.

It is partly in response to the lack of affordable housing that middle income households across Europe are opening the way for innovative alternatives, by collectively developing dwelling clusters with shared spaces. Co-housing projects are not a response only to the housing crisis, but also to other societal pressures such as high costs of transport, social isolation, and the lack of child- and elder-friendly and green space in cities (Krokfors 2012; Tummers 2015; Wohnbund 2015). Co-housing projects generally aspire to having lower environmental impact than conventional residences, through a combination of reduced consumption, physical design, and shared commitment to sustainability (Parasote 2011; Marckmann et al. 2012; Kaspar de Pont et al. 2016). As such, they hold promise for sustainability and climate change mitigation agendas. Co-housing is also seen as having potential to redress problems of alienation and vulnerability in contemporary cities (Fromm 2012); most projects are guided by a narrative of social solidarity (Sargisson 2012). As many case studies report, once established they give rise to participatory governance, mutual aid networks and everyday support for residents (Jarvis 2011; Bresson and Deneffe 2015). Moreover, co-housing is also about 'acknowledging the interdependency of humans with each other and nature' (Pickerill 2016, 33), which brings it to the heart of recent commons theorizing. Perhaps even more optimistically, it is increasingly presented (in some circles) as a promising alternative for overdeveloped societies in need of transition to post-carbon and post-capitalist ways of living (Chatterton 2016; Nelson 2018). Co-housing initiatives thus relate to commoning by providing and de-commercializing housing and in their sustainable use of resources during planning, building and dwelling.

Housing and co-housing are relevant to FPE research for a number of reasons. First, the global provision of housing runs counter to gender justice: less than

15% of land and property owners worldwide are women and ‘gender continues to be a major axis of discrimination in housing access and in particular housing ownership’ (Alber et al. 2017, 71). Co-housing is often presented as an attractive solution to the need for supported housing in older age, which women need more than men (Scanlon and Fernández Arrigoitia 2015). It has been found to appeal to women regardless of life-stage because it facilitates sharing of domestic tasks and childcare (Vestbro and Horelli 2012). Several researchers have observed that co-housing initiatives attract a female majority (Sangregorio 1995; Bamford 2005), but so far no systematic empirical studies support the claim that they actually bring about a transformation of gender norms.

Recognizing that social inequalities are reflected in built as well as natural environments was a founding insight of feminist geographers and urbanists in the 1980s (cf Wekerle 1980; Rocheleau et al. 1996). Dolores Hayden (1980, 1981), Matrix Architects (1984) and the Scandinavian study group (Horelli and Vepsä 1994) were the first to connect the gendered division of public and private spheres to the spatial layout of housing. They argued that private family home reinforces by design both the division of labour and environmentally-problematic consumerism (Hayden 1980; Sangregorio 1995). Homes need to be filled up with consumer durables and continuously maintained by underpaid/unpaid, usually female, workers, thereby enforcing the patriarchal-capitalist divide between ‘productive’ and ‘reproductive’ labour (Rosaldo 1980). Responding to this analysis, feminist visionaries have long imagined that, designed to enable collective forms of social organization, housing could contribute to greater gender equality and reduced resource use simultaneously (Spain 1995). For example, the 19th century material feminists advocated a kitchen-less house, while earlier utopian socialists proposed the spatial integration of production and reproduction (Hayden 1979). Some of these models have inspired co-housing initiatives, such as the Swedish *Kollektivhus*, which has a professional canteen serving meals for all residents (Vestbro and Horelli 2012).

Contemporary co-housing promises to be an alternative model that promotes equality by breaking with the patriarchal-capitalist enclosure of the domestic sphere. Moreover, it challenges the assumptions that people want to live only with people to whom they are related by birth or marriage, and that sharing of space and stuff is neither practical nor desirable. When care is made a collective concern and built into the infrastructure as well as the ethos of co-housing, it can be an answer to Tronto’s call for environments in which carework is openly practiced and democratically negotiated.

4. Research insights: co-housing projects in the Netherlands and the UK

We now discuss insights that we have developed from putting FPE-commons themes into conversation with a body of empirical research on co-housing. We draw upon data collected during a comprehensive study of co-housing projects (Tummers 2017) as well as collaborative fieldwork.

In 2016 we visited four co-housing projects in the Netherlands and the UK. We selected these projects because they are considered typical by international co-housing network definitions in addition to being exemplars of sustainable building.³ They were designed and are run with a high degree of self-organisation. They are committed to responsible use of resources to minimize ecological impact as well as to financial fairness and democratic decision making. Our visits involved guided tours and informal conversations with residents. Residents were made aware of our research and voluntarily provided information about the cost, design and technological, environmental and social features of the projects; some invited us into their homes to look around. We also gathered archival documentation and took field notes and photos.

The insights gained from our site visits were interpreted against secondary data and expert consultation. At meetings of the European Co-housing Research Network, we discussed key themes with researchers and professionals connected to the projects. We also assessed our impressions from the field visits against existing research from a larger number of projects visited by Tummers since 2012, or that we have read about in the co-housing literature. In addition, we had the opportunity to insert questions about gender and carework in a survey administered by co-housing experts Dorit Fromm and Els de Jong in collaboration with the Dutch co-housing network *Gemeenschappelijk Wonen*. The survey was conducted in 2017 with 73 residents of a 40-year cohousing project with a 49% response rate. Our collaboration with de Jong and Fromm produced two important results: first, the answers to our questions, analysed through different cross-variables by de Jong and Fromm, confirm the themes we derived from our observations. Second, it allowed us to identify the methodological challenges involved in asking questions about inclusivity, gender and care in a survey, as we illustrate below.

There are many aspects of the four projects we visited, and co-housing more generally, which are ripe for analysis from a commons perspective. What we offer here is consideration of how they ‘measure up’ to the three FPE concepts discussed earlier, namely eco-sustainability, commoning reproduction, and creating a democratic culture of care.

4.1. Reducing ecological impact?

The projects we visited show how the goal of reducing environmental impact is to be achieved through a combination of design features and consumption practices. By living together, co-housing enables people to reduce their consumption and therefore their impacts on the environment. Beyond sharing, we observed that the four projects also incorporate low carbon eco-technologies for building, heating and energy generation.

³ Our selection was made from Tummers’ Europe-wide database and aimed for a balanced NL-UK comparative study. Ultimately pragmatic criteria (accessibility and time) determined the sample for this paper. We refer to the projects as UK1, UK2, NL1 and NL2 for reasons of participant anonymity.

The eldest project we visited, NL2, was among the most advanced in terms of sustainability. The re-use of formerly industrial buildings was in fashion when it was established in the 1980s, but implementing water-purification in an inner-city location was a novelty. The low tech system recycles domestic grey water in a reed bed that also adds to the quality of the common greenspace. The water is re-used for the washing machines in a common laundry, which is the topic of residents' debates on hygiene, health, allergies and environmental responsibility. Besides requiring the use of bio-degradable detergents, the laundry also offers both grid and rain water sources. Throughout different periods, the use of the common laundry has been fluctuating but it is generally well-occupied. Originally inspired by sustainable technology, the laundry is now an example of how social and physical environments interact when amenities for domestic needs, such as washing and gardening, are delivered through commoning practices. Residents described a process of learning new consumption values and practices, but how much water, energy or CO₂ is actually saved has not been calculated.

The largest project, UK1, is built on a sensitive location with precarious eco-systems and high flood risk; planning permission was only possible with high environmental standards. As the project received considerable state subsidies for the eco-standard of building, the performance of the design is also monitored extensively. First results are promising regarding reduced use of water and energy, but the project was completed recently and long-term performance will depend on the occupants. We also learned that the environmental goals have been the source of conflict. For example, debates over the rules for the communal kitchen included the frequency of cleaning and the type of cleaning materials used, as well as whether or not it should be a vegan/vegetarian-only space. The spatial dimension of commoning, in this case related to cooking/cleaning/eating, thus reveals the value systems underlying social reproduction that have a strong impact on the ecological performance of domestic equipment and the eco-footprint of households (see also Daly 2017).

4.2. Making space for commoning reproduction?

The physical design of co-housing makes it possible to collectivize cooking, cleaning and caring. Each of the four projects we visited includes a wide array of common spaces, both indoor and outdoor, with clear functional objectives. For example, clustered parking creates traffic-safe spaces that can be greened for water purification or communal gardens and playgrounds, thereby restoring eco-systems and contributing to the quality of life. They represent typical co-housing projects looking to re-unite qualities of both urban and natural environment in a process of pooling resources for individual and collective benefit. But the co-building is not just about the physical bricks and mortar; it is also about processes of interaction and the organization of everyday life. Many organize daily tasks in regular coordination meetings that take place in common spaces.

Amongst the four projects, NL1, the only fully social rental project, has the highest ratio of common spaces and activities relative to the number of residents. Their ambitions are big: they operate co-working spaces, a food-coop, and gardens requiring a high level of organization. There appears to be potential for collectivization, but in our fieldwork, we did not find that it was viewed as a means of transforming social roles. In fact, gender as a way of organizing responsibilities did not come up in discussion and explicit questioning raised more surprises than answers. For example, when asked about their gender politics, especially in the division of everyday carework and maintenance tasks, the residents from NL1 did not think it was an issue and were unable to tell us how specific working groups were composed. This resonates with the survey by Fromm and de Jong, which found that in contrast to the origin of the co-housing movement, alleviating domestic work was rarely named as a motive for joining co-housing (Fromm and de Jong 2019). During our visit to UK2, after a tour of the grounds and a discussion of design specs and financing details, we found ourselves looking at the grand staircase, high ceilings and communal WCs of the 19th century building, and noting that it would take considerable effort to keep common spaces clean. In a brief encounter with a resident we asked: 'Do you discuss collectively how to do the cleaning; do you have a rota?' The man looked at us with puzzlement: 'No, no,' he answered, 'it just seems to get done'.

4.3. Creating an inclusive and democratic culture of care?

Co-housing generally aims to be inclusive and democratic. In theory, common ownership should also foster economic equality and access to affordable housing. The four projects we visited were designed with inclusivity in mind, such as by having disabled access and spatial features suitable for a range of ages and household/family types. In practice, however, co-housing projects in Europe are not necessarily able to deliver inclusivity and diversity; the current situation in the housing market presents serious obstacles to realising design objectives.

Our research, along with data from other studies (Kläser 2006; Tummers 2015; Deneffe 2016), finds that most co-housing projects have a homogeneous population; there is an (unintentional) lack of socio-cultural and economic diversity. It appeared to us that all four projects were inhabited primarily by white, middle class residents. We did not gather data on sexuality or other intimate issues. We observed that most of the co-housing projects have high unit prices and reliance on private financing with specific public funds for 'add-ons'. The cost of purchasing a unit in both UK projects is likely to be prohibitive for people on fixed and lower incomes. In order to obtain loans residents still need to be the private owner of property. The Dutch projects collaborate with Housing Associations to realise a social rental regime, but this puts limitations on the desired mix as higher incomes are excluded from renting under the social housing regime.

In the co-housing scholarship there is a tendency to celebrate consensus-based decision making and regular face-to-face micro-interactions as ways of

fostering democratic self-governance (Jarvis 2011; Scanlon and Fernández Arrigoitia 2015; Chatterton 2016). And yet research also suggests that in practice there are many barriers to realizing these two potential outcomes. Although we did not observe them in action during our visits, we were told that each project has arrangements for regular community forums, ranging from formal board meetings to more informal planning sessions. We learned that in all four co-housing projects the time- and budget-restrictions of the planning process demand an exceptional level of involvement. Moreover, to participate in complex decision making about the design features of the project, a certain level of education and skills is required. Even the day-to-day running and maintenance of common amenities such as pellet boilers and reed-bed water filtration systems require residents to develop technical know-how. While we recognize the limitations of one-off site visits, we did not find much reported evidence of routinized discussion or negotiation of carework. What is more, participation in decision making combined with regular performance of common tasks adds up to a significant time commitment. One resident of NL1 told us that 'living in co-housing is time consuming rather than contributing to greater leisure time'.

5. Discussion: FPE challenges for co-housing research and practice

The environmental benefits of sharing goods and resources are well rehearsed in the literature on eco-co-housing and eco-communities (Marckmann et al. 2012; Pickerill 2016; Daly 2017). Research by Stevenson et al. (2016) represents one of few attempts to systematically establish the extent to which the intentions to reduce environmental impact actually materialize. Nonetheless, researchers interested in commoning in high-income contexts seem hopeful that these initiatives offer the promise of radical change. For example, drawing on his experience of a UK co-housing development, Chatterton supports claims about low eco-impact, affordability and community resilience. For him, co-housing is a 'transformative practice of urban commoning', a 'place-based niche innovation' that challenges the capitalist status quo (Chatterton 2016, 411). At the same time, the evidence base for claiming their success depends on single case studies, rather than systematic assessment. Many of the features that are important to FPE as presented above are either not (easily) researched or are not explicitly part of co-housing projects' physical or social design. Reviewing co-housing through an FPE lens, we suggest, yields a different assessment of these key features: critical rather than wishful thinking. We conclude our discussion with an agenda for future research on co-housing that foregrounds the value of taking an FPE perspective. Our points are organized around FPE's three constitutive parts: feminism, politics, and ecology.

First, the 'F' in FPE signals a principled concern for gender justice, which requires transforming social norms and roles. Changing the way people care and are cared for is central to this transformation (Harcourt and Bauhardt 2018).

The question thus becomes, while making it possible to (re)collectivize reproduction – as Federici envisages – does co-housing actually succeed in the intended redistribution of gender roles so that residents take part in all aspects of socially and environmentally necessary work on a regular and equal basis? If so, does this aspect benefit only the co-housing residents or will it lead to broader social change? Chatterton seems to exemplify the tendency of scholars writing about commoning to neglect questions about the politics of social reproduction in their analyses. Upon close inspection, his celebration of the transformative potential of co-housing bears several hallmarks of ‘epistemological ignorance’ (Tronto 2013) about the full requirements of social change; he makes no mention of the need to change unjust gender relations.

By building-in the sharing of spaces and equipment, the physical infrastructure of co-housing enables residents to share the work of social reproduction. But there is no guarantee that this will happen fairly, and in the context of deeply entrenched gender roles, one can expect that without institutionalized equal sharing, ad hoc arrangements (as we saw in three of the four projects we visited) will mean caring-as-usual, with women taking on the bulk of the responsibility. Observations suggest that in general, men tend to do maintenance and be more interested in eco-technologies, whereas women are more involved in communication and organizing tasks for the collective. However the survey by Fromm and de Jong found that men and women who live in a two-parent family with children are more aware of potential gender divides and imbalances than members of other household forms such as one parent families, couples without children and singles.

Future research will need to include methods of assessing the extent to which carework is collectivized and de-gendered by systematically collecting data on who does what tasks. But to ensure that the analysis goes beyond a simplistic counting exercise to a critical consideration of the ‘P’ in FPE, it is also necessary to observe who ‘sit(s) down at the table [for the] renegotiation of caring responsibilities’ (Tronto 2013, 170), and how these dynamics evolve over time. Rather than being a taken-for-granted domain that is devalued and feminized, and from which privileged segments of a group or population are excused, in co-housing there is potential for carework to become a visible requirement of group membership and subject of continuous and democratic deliberation. Thus, in theory, the integration of spaces and processes for collective negotiation in daily life makes co-housing a very promising site for Federici’s (2012a,b) ‘commoning reproduction’ and the development of a caring democracy as envisioned by Tronto. These combined features affirm the significance of co-housing for ongoing FPE research into just and sustainable alternatives to patriarchal capitalism (see Harcourt and Nelson 2015; Bauhardt and Harcourt 2018). The challenge for research, however, is that it is difficult to observe ongoing processes of negotiation in a collective dwelling, as they touch on sensitive issues and intimate spheres. Evaluating the impacts of negotiated collectivization on interpersonal relations, norms and values is uncharted territory for social science. It would

require longitudinal, ethnographic research that asks questions about, and seeks to interpret, the complex and situated intersections of power, privilege and difference in co-housing projects. In addition, a comparative study needs to establish how the availability, location and quality of both individual and common cooking, washing and other facilities influence sharing. More importantly, analyzing co-housing through an intersectional lens would help guide co-housing initiatives out of the deadlock of middle class homogeneity to become a more inclusive and widely accessible alternative to the isolation of the traditional private household.

FPE has from its origins refused a single axis analysis of gender (Rocheleau et al. 1996). To some extent, foregrounding gender in discussions of the politics of care and distribution of carework is justified by the statistical evidence. But this does not mean the experiences of those humans and non-humans who perform/provide caring labour are affected in the same way by their gender; there are many other intersecting variables to consider. Political visions of social transformation should be attuned to how far alternatives go towards uprooting oppressions based on race, class, sexuality, age and corporeality. It seems clear that, as currently realized, co-housing provides adequate housing primarily for white, middle income, well-educated residents who are not necessarily interested in transition to a post-capitalist, post-carbon society. On the one hand, it could be argued that reducing the consumption levels and CO₂ emissions of the most privileged demographic group on the planet is consistent with environmental and climate justice. On the other hand, co-housing is a 'niche innovation' (Seyfang 2008) that houses too small a number of people to contribute significantly to lowering the environmental impact of affluent cities. If it is to be upscaled successfully, to achieve the radical goals voiced by Chatterton and others, it must recognise the internal gender dynamic and how residents are positioned socially. By leaving out critical discussion of gender, race, class or age (and species) from the analysis, the impact of difference and power relations within the co-housing project remain unnoticed. Thus, it must also be part of an FPE agenda to challenge discussions of commoning that overlook differences in power and positionality. Whereas it is part of an FPE approach to make these exclusions explicit (cf. Mollett and Faria 2013), we know of no empirical studies that employ a critical intersectionality lens to assess the internal make-up and dynamics of co-housing.

Finally, while we have discussed the potential for eco-sustainability, we stated earlier that FPE shares with recent commons studies a desire to eschew instrumental treatment of the more-than-human world. The 'E' in FPE expresses a deep commitment to ecological justice and care for all species (Sundberg 2017; Harcourt and Baudhardt 2018). Most studies of co-housing, including our own, give far more attention to sustainability in an anthropocentric sense than to questions of interspecies ethics. To what extent can co-housing foster more ethical and caring relationships between humans and the rest of nature? Although we observed a preoccupation with so-called green technologies, we were also

aware of the importance of plants, water, and soil to the co-housing residents we met at the UK and NL projects. Animals did not appear in the discussions other than as pets and food (as in the meat debate at UK2), but their presence/absence is surely worth critical attention. Future research on co-housing will need to gather more empirical insights and build on more FPE theorizing on how the material flows and affective aspects of daily life contribute to decentering humans from commons and commoning (Gibson-Graham 2011; Sundberg 2017; Heynen 2018).

6. Conclusion

Co-housing as a practice of commoning is celebrated by academics and practitioner visionaries, and by people who have built and live together in co-housing projects, for its promises of sustainability and social change in increasingly desperate times. Reasons for wishful thinking have been around for at least a century and have been adapted to fit the current context. Feminists pioneered the idea that communal living could lead to greater egalitarianism, and made it part of a political vision as a result. Today gender equality is sometimes mentioned as a pre-condition for the success of co-housing, and insights into the gendered dimensions are increasingly available. Overall, therefore, we understand co-housing to be an exciting area of research located at the crossroads of feminist, environmental and commons theorizing. However, as we have argued, the promise of co-housing cannot be read at face value. Case studies of co-housing projects are usually snapshots in time that portray what observers choose to see. Research is needed that responds to a wider range of questions than is currently found in the literature on which we have drawn. We have suggested that examining co-housing through an FPE lens, with its concern for intersectional gender justice, ecological ethics, commoning reproduction, and cultivating a democratic culture of care, leads to the kind of comprehensive analysis from which the wider study of commoning might benefit. Our analysis indicates that while it is true that some aspects, such as the sharing of consumer goods, are disruptive of the capitalist status quo, there are many other aspects that fall short of the transformation needed to build a post-capitalist *and post-patriarchal* society.

What we conclude from our exploratory research is that co-housing may represent a large leap forward towards transformation, but changing the spaces and structures in which people live together cannot achieve gender justice or resolve the care crisis by itself; fundamental change in the patriarchal-capitalist gender order will require radical cultural change. Such change will not be possible if FPE scholars are alone in making this argument. It is therefore vital that commons researchers turn attention to co-housing in the affluent world, moving beyond wishful thinking to a practical programme for creating a common culture of care. The promise of co-housing as an eco-socially transformative example of commoning cannot be supported until a more comprehensive method of evaluation is developed.

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