'Becommoning': a design-framework for the initiation of new commons

Creating Tomorrow

'Becommoning' : a design-framework for the initiation of new commons

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This article explores the establishment of new commons initiatives from an integrated design perspective. Such a deeper understanding of the initial phase of becoming a commons -i.e. becommoning- and its design is crucial as members embark on a laborious, time-consuming and uncertain process in which they need to make critical design choices for their future commons. The design perspective is brought forward by the collective creation through which group values are explicated, the communal resource and its governance take shape and conditions are forged for the commons to emerge. So, the study presents the 'becommoning' framework as a first exploration for such a designerly approach to identify the steps and activities communities need to make at the very begin to start unfolding their initiative. The framework is applied in a case study, namely, for exploring the design of housing commons and related genres like cohousing, residential communities that are recognized as micro-laboratories offering general insights for pursuing alternative societal models.

Keywords: commons; (be)commoning; initiating & desigining resource communities; cohousing

1   Introduction

In the past two decades, the idea of the commons has regained traction in both academic and societal debates. Commons are presented as collective modes of economic and social organization that could function as alternatives for or in addition to the market and the state. Such 'institutions for collective action' are expected to contribute to a more just, socially inclusive, and sustainable society (Foster & Iaione, 2019; Stavrides, 2020). Examples include energy cooperatives, neighborhood gardens, local

transportation schemes (e.g. car-sharing), collective housing, open source software, a local library, or the voluntary care for neighbors.

According to practitioners and researchers, these examples do not just concern the collective resource at stake (the commons), but also the institutional practices and social activities needed for the upkeep of the resource (commoning), as well as the community involved (commoners). 'Commoning' consists of the ongoing processes through which the members actively maintain the resource, as well as the governance and other institutional practices through which they set the values, rules, use forms, possible sanctions, etc. (Bollier, 2015; Linebaugh, 2008). This brings the process of commoning clearly into the field of design: part of the commoning activities consist of the creative processes through which group values are explicated, the communal resource itself as well as its governance take shape into concrete forms and procedures, and conditions are created for the commons to emerge. This paper builds upon this insight and introduces a nascent framework for the design of new commons initiatives, a design process we call 'becommoning': the becoming of a commons.

So far, various studies have provided valuable insights in the processes of commoning through studying particular cases. Others have scrutinized particular design elements, like the physical and architectural outline of resource communities, their organizational models, the profiles and motivations of commoners, the role of (professional) intermediaries, the scalability chances of commons projects as well as related institutional aspects, policies and regulations (Sohn et al., 2015; Stavrides, 2015; DeFilippis et al., 2019; Helfrich & Bollier,2015).

Yet, to our knowledge, so far there is not much research concerning the establishment of new commons initiatives from an integrated design perspective. We argue that such a deeper understanding of the 'becommoning' path and its design is crucial as in this phase participants embark on an often laborious, time-consuming and sometimes uncertain process in which they need to make critical design choices for their future commons by carefully considering their diversity of intentions and perspectives, opportunities and barriers. This is key since commons-based forms of organizing typically rely on consciousness, interactions and self-regulation among the contributors.

In the remainder of this paper we will present a framework for 'becommoning' as a first exploration for such a designerly approach, as the outcome of our research question: which steps and activities do communities need to make in the initial phase of their 'becommoning' and how can these measures contribute to the realization of the commons?

This question will be answered by exploring the design of housing commons and related genres like cohousing, residential communities, housing cooperatives or communal living etc. Cohousing seems an appropriate case to examine the commons as it centers on the joint arrangement of a resource that is becoming more and more unaffordable and scarce in urban contexts. Cohousing initiatives are not only widely seen as a promising movement to foster social, economic and ecological sustainability but are also acknowledged as micro-laboratories that offer new insights and lessons for pursuing alternative societal models (Horňáková & Jíchová, 2019; Tummers, 2016). Hence, despite the huge variety of commons initiatives (e.g. resource type, community traits, management style, the broader socioeconomic and institutional context) cohousing serves as a fitting example to more generally illustrate the process of becommoning.

This study aims to conceptually contribute to the discussion by identifying the various components and dynamics of 'becommoning', which can broaden our understanding of this developmental path. For this purpose, we carry out a literature review that offers a means to map what is known about this initial stage of establishing a commons, to inventory knowledge gaps and to conceptualize 'becommoning', which can guide the direction of future empirical research. The literature insights gained were further informed by 'community of practice' actors partaking in our research project 'Charging the Commons'(Charging the Commons (circulateproject.nl).

The article is structured as follows: section 2 provides background on the commons and discusses cohousing as an example. Section 3 presents the research methodologies while section 4 introduces the main stages and building blocks of ''becommoning''. This is followed by a discussion on the implications for policy, communities, professionals and practitioners and recommendations for a future research agenda in section 5.

2   Background: The commons and cohousing as a commons

The commons have been discussed and defined in a myriad of ways. What they have in common is the framing of the commons as *social regimes* for the management of *shared resources*, based on a set of *shared values* (Clippinger & Bollier, 2005). Differences exist in the types of resources that are at the heart of the commons, and the variety of their social regimes. Traditional commons usually took form around non-exclusive and subtractable common pool resources such as commonly held fishing or grazing grounds. So-called 'new commons' (Hess, 2008) also consist of non-excludable, non-substractive resources such as digital data commons or knowledge commons. Additionally, and more recently an interest has arisen in 'common property regimes' centered around excludable resources such as housing or transportation schemes. These are also referred to as 'urban commons' (Huron, 2018; Mattei & Quarta, 2015). Social regimes consist of various mechanisms and rights through which participants collectively govern and maintain the common resource based on user-sovereignty. These include mechanisms for decision making and conflict resolution and rights regarding access and the setting of boundaries. The shared values on which these regimes are based usually centre on 'use-value and sustainable or regenerative stewardship rather than market-value and extraction', while also encouraging 'care, social relations and personal growth rather than economic transactions and growth.' (De Waal & Tscherteu, forthcoming). According to Hess (2008), contemporary forms of commoning can be understood as a reaction to 'increasing commodification, privatization, and corporatization, untamed globalization, and unresponsive governments'.

One example of this is the co-housing movement that has sprung up in recent years. Many projects in this realm can be found in the German-speaking countries of Europe, but increasingly also elsewhere, amongst others in the Netherlands. This type of housing development has taken manifold forms, and they are motivated by both pragmatic and ideological objectives such as affordable residences, economic advantage, environmental sustainability, solidarity, social justice, countering neoliberal capitalism or decreasing solitude. These diverse motives notwithstanding collective housing projects are comparable as they are all based on the participatory creation, usage and management of resources and a high level of self-management (Larsen, 2019; Ruiu, 2014; Wang et al., 2020). This includes both the housing unit itself as well as additional resources such as collective spaces, food, care, transport, etc.

Linking housing to the idea of commons "may seem contradictory […] because housing is more often associated with privacy and [private] property than with sharing and collectivization" (Tummers & MacGregor, 2019, p. 69). Indeed, housing is a subtractable and excludable resource and often understood as an economic investment aimed at capital gain. However, if recognized as a societal resource, the management and fair distribution of housing reveals similar challenges – e.g. the threats of gentrification, disinvestment, demolition, displacement, scarcity, or lack of affordability – as other common goods (Dragutinovic et al., 2022; Gidwani & Baviskar, 2011). In this regard, it is not surprising that community-based housing is widely seen as a promising movement to foster social, economic and ecological sustainability. A growing number of co-housing groups see housing as a common good and have taken measures to remove their project from the speculative housing market and to manage it as a common pool under joint management arrangements. Such a take on collective housing is increasingly endorsed by local governments as part of their urban development strategies, fitting in the trends of decentralization, self-reliability, and participation (Durose et al., 2021; Aernouts & Ryckewaert, 2017, 2018; Angotti, 2008; Bunce, 2016).

In relation to commoning, cohousing can then be understood as an excludable resource, developed and managed as a common property regime set up by the residents themselves, according to mutual values that promote social relations, sustainability, and affordability. However, as we will see below, the process of turning these abstract values into a concrete social regime and actual physical design is a complex process. When a group of actors intend to set up a co-housing scheme a range of aspects need to be considered early on, and an integral design framework covering the physical, social, spatial and governance components could help to structure the founding process of such a future commons.

3 Literature review: methods and the corpus

In this enquiry we seek to inventory insights and knowledge gaps in view of the 'becommoning' phase. To this end, we carried out a literature review to identify the main building blocks of 'becommoning' and to evolve a conceptual framework. This section elaborates upon the ways in which the literature study was accomplished.

3.1 Literature search

The literature search was based on a set of guidelines to define the eligibility criteria and the search strategy.

Topic and search terms: The literature contains a wide variety of terminologies for community-based housing (Figure 1). Therefore, to fully cover the research topic the following combinations of search terms were used: cohousing, collective housing, housing cooperatives, residential community, community-led housing, collaborative housing, housing commons, communal housing. These terms were initially also completed by the terms " establishing", ''design'', "the initial/preliminary stage of", "the emergence of", "setting up" because this study centers on the premature phase of community-led housing projects. These additions, however, did not yield the results expected since the thus emergent studies addressed many different aspects of the entire domain of cohousing and not necessarily ones in the initial trajectory. Therefore, we used the first terminologies cited above with the intention to seek (implicit) accounting about the topic in question.

Year, language, publication status and research design: No specific period was defined in the first search round since the theme of cohousing is not a new phenomenon although its recent reemergence can provide additional insights. All publications collected range between 1998 and 2022 with the majority covering the more recent period between 2010-2022.

In order to cover the full breadth and to assemble a comprehensive understanding of our research theme our quest for literature included all types of research design, such as empirical case studies, experiments, comparative research, questionnaires, and literature review as well as various formats of the grey literature. This resulted in a broad range of literature including international, peer-reviewed (conference, proceedings) papers, theses and books, book chapters from well-known academic publishers as well as "grey" literature published by governments, businesses, academia, societal organizations, and comprising newsletters, reports, presentations, lectures, whitepapers, governments documents, bulletins, working papers. Including these non-academic publications was beneficial as they present the knowledge of various professionals and practitioners who are actively engaged in urban projects in practice. This search targeted publications both in English and Dutch language.
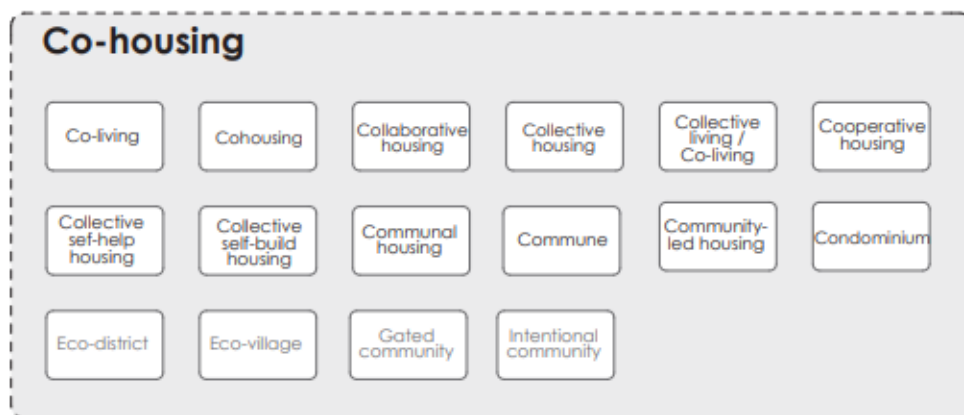

Figure 1: The sub-terms of cohousing, used in the literature. Source: Babos et al. 2020

For the search process we first applied the established scientific databases such as Web of Science, Scopus or Google Scholar, using the various terms indicated above. This quest delivered a huge amount (several thousands) of articles of which a selection took place in view of their relevancy. For this, the titles and abstracts were read. Besides, a snowball method was also used by selecting suitable articles referred to in studies previously chosen. This search through digital databases eventually produced fifty articles from the domains of social sciences, economics, humanities, and political sciences. In addition, we gathered publications of grey literature from websites and platforms of organizations, communities, associations dealing with the commons. Also, recommendations from academics, professionals and practitioners led to relevant material. This generated an additional 30 pieces of work, which, together with the studies selected, amounted to a total of 80 publications.

3.2   Data analysis

Firstly, the content of the publications, concerning the processual dimensions of cohousing projects was inspected and dissected. This aimed to recognize recurrent patterns that could help to outline the most important steps on the initial path to inventing and evolving collective housing initiatives. This

necessitated a sharp-eyed inspection because the major variables looked for were usually not explicitly mentioned in the studies. It also required a review with a low level of detail because the intention was to arrive, as a starting point, at an overview of the main building blocks of the becommoning process. Subsequently, sub-variables were also identified since the main variables -the major building blocks- are broad concepts encompassing multiple components. These sub-variables were then divided into the distinct categories of building blocks. The analysis and interpretation of the results were performed qualitatively since the views on the themes in the various publications differed significantly in scope, nature and depth.

Although this literature review centered on cohousing we also included insights that were either general concerning the development of commons initiatives or specifically related to (other) types of resource communities. This seemed valuable as the aim of the present study was to identify broad patterns and dynamics of the phenomenon 'becommoning', for which cohousing serves as a useful, illustrative case.

3.3   Feedback from the field

In order to deepen and enliven the insights gained from the literature review, the findings were presented to practitioners and/or professionals, including the 'community of practice' partners in our research field labs. Since these actors, through their daily practices, have much knowledge of diverse collective arrangements we asked them to reflect upon the main dimensions we assembled from the literature and if they spot further ones lacking. These exchanges generated invaluable feedback for and additions to the preliminary findings.

4   The Becommoning Design Framework

In this section we present our 'becommoning' design framework drawn on the findings from the literature review. The framework describes three main aspects of the becommoming process, each consisting of two or more 'building blocks'. Together they provide an overview of elements that prospective commoners need to design or arrange in order to start off their initiative. These aspects can be more broadly related to commons projects, and not solely to cohousing groups, since they concern fundamental organizational and design attributes of any emergent resource community:

1. Community and values. In order to set up a commons, a community of prospective commoners needs to be established. This community consists of people who intend to collectively maintain a resource, and need to agree upon the foundational values for their commons. Value discovery and alignment as well as community building are important aspects of any becommoning phase.

2. Making and designing. The resource itself, its governance scheme and technological support infrastructure need to be designed, and definitions and rules about membership and relations to society need to be established. This aspect explores the various elements that need to be set in place for a commons to take off.

3. Facilitating and contextualizing. To realize a commons, future commoners also need to form alliances with external parties, and find financing for their project. They also need to cope with regulations or customs either by influencing or capitalizing on them so that the foundation of the commons becomes possible.

These three aspects are discussed in more details in the following sub-sections.

4.1 Community and values

Community building, value discovery and alignment emerge from the literature as vital tasks. It is seen important since studies on existing commons regularly report a persistent divergence in goals and expectations between individuals and the group itself, leading to difficulties in managing the commons in a later phase (Eshuis et al., 2014; Hyatt & Hyatr, 1998).

4.1.1 Value discovery

Initiators of housing cooperatives often express both pragmatic and more idealist motivations, such as sustainability, gender equality, social justice, inexpensive dwellings for low- and middle-income families, or renewable energy (Noterman, 2016; Schugurensky et al., 2005). Yet, studies emphasize that the community should go beyond the shallow articulation of objectives and include the thorough mapping of individual members' purposes (Hyatt & Hyatr, 1998; Schugurensky et al., 2005). If the alignment of these motivations and values is deficient, the realization of these aims may be hampered. For instance, residents in the Leeds-based LILAC project were not able to fully exploit the low-carbon features of their homes as hoped because of different lifestyles and gaps in the collective learning process (Baborska-Narozny et al., 2014; Tummers, 2016).

Communities can make use of various methods to elicit their values and motivations. There exists a wide variety of participatory design methods, including methods for the discovery of unknown issues and complex social systems that are difficult to explain by language alone. These include fiction, roleplay, games, provocation, objects, creative activities, narrative workshop techniques, or ideation cards. For instance, the UK-based Wrigleys Solicitors (2017, p. 9), a leading adviser to the social community-led housing organizations and social enterprises, applies the "*people, pound and property*" approach containing key features of housing commons about which community members need to allign. Our previous 'Circulate' research project resulted in a design canvas highlighting six design dilemmas resource communities need to address (Cila et al., 2020). The Dutch knowledge platform CollectieveKracht (2023) supporting civil collectives has introduced their instrument ''Discreet Choice Experiment'' (DKE) to measure preferences of civic community members, which otherwise would remain hidden.

In the context of shared housing development value discovery and alignment can give insight in the desired levels of collaboration in the management of the assets. This is illustrated by Tummers (2016) who classifies the wide(ning) scope of cohousing initiatives on a continuum according to the intensity of collaboration between residents (Figure 2). Such an outline can make communities more aware of the possibilities and consequences of different types and degrees of collectivity. The choices made in this stage are crucial as they will shape the subsequent aspects and building blocks of becommoning, and inform the actual design of the building and governance procedures.
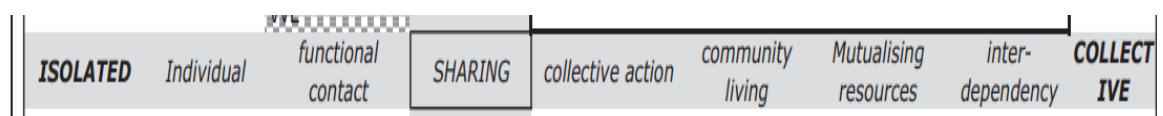

Figure 2. Collaboration levels in cohousing. Source: Tummers, 2016, p. 2034.

4.1.2 Community building

Although collective housing can have many forms and various levels of togetherness, the literature unequivocally acknowledges that a common sense of belonging, responsibility and internal confidence is a prerequisite for establishing a successful commons. The establishment of such a community in the becommoning phase can be challenging, due to the long lasting, slow-moving, laborious and uncertain implementation horizon of establishing cohousing arrangements (Brenton, 2008). Therefore, studies point out that it is vital that initiating members from the very early forming stage become aware of the nature of community evolution throughout the entire development (Felstead et al., 2019a; Ruiu, 2016).

Community building in cohousing has been increasingly linked to the notion of social capital defined as 'the strength of weak ties' (Granovetter, 1973); as a resource built by present and potential resources resulting from relationships (Bordieu, 1986); as a source of benefits through extra-familial networks, and as a multidimensional asset that consists of values, trust, reciprocity, and engagement (Putnam, 2001). Specifically "bonding" social capital is important for community development within cohousing groups as it accentuates the strengthening of the internal ties. Cohousers produce bonding social capital by creating supportive, formal and informal networks within their community (Ruiu, 2016).

Community building can be achieved through co-design processes as part of the making and designing building blocks described below. Studies (Durose et al., 2021; Seyfang & Haxeltine, 2012)have shown that the participation in the design process promoted more intimate relationships among members and increased their social network: ''*spending a long period of time working together contributed to creating their community in both material and immaterial terms*'' (Felstead et al., 2019, p.14).Initiating groups are also recommended to keep members active in phases in which no steps can be taken - for instance, during waiting for a decision - when the dynamics and enthusiasm may be temporarily vanished. Initiators can keep members involved by regularly informing them as well as by preparing them for such quiet periods (Crooy & Lupi, 2017; Deberdt et al., 2015).

4.2 Making and Designing

This part of the framework describes the activities commoners take to create and design varied aspects of their future common life, based on the values articulated in value discovery and community building activities. At least four elements need to be taken into consideration: the building itself, the governance structure, the technological infrastructure and the setting of boundaries of the commons and its relations with its context.

4.2.1 The physical building

The architectural design of the co-housing unit should express the ideals of the community. It structures the physical space for communcal activities and interactions, and can reinforce a sense of community and belonging (Tummers, 2016; Wang et al., 2020). Accordingly, the literature offers key design factors that cohousers need to consider: density, layout, the division of public and private spaces including intermediate buffer zones, the quality, accessibility, visibility, type and functionality of communal spaces, and small amenities such as swings, benches, landscape garden areas, and site lighting (Hacke et al., 2019; Hyatt & Hyatr, 1998).

In the design, communities need to balance individual and collective uses (Ruiu, 2016; Williams, 2005). For instance, research shows that restricting activities carried out in private spaces while providing alternative communal spaces (e.g. kitchen, laundry, dining) for those activities increases social interaction in cohousing communities. The cohousing literature also states that higher densities can contribute to social interaction. However, too many opportunities for interaction may also reduce engagement and even lead to members' withdrawal from the community (Nonini, 2017b; Williams, 2005). Such dilemmas require communities to deliberate on their wants and needs -to what extent should interaction be stimulated or enforced by the design, and to what extent should it be left to private initiative?

Studies on urban, architecture and housing design indicate the importance of aligning the design with the values and preferred levels of collectivity within a community: *the considerate study of social patterns and group dynamics of each community form the criteria for successful design''* (Glick et al., 2019, p.94). Furthermore, the participation of future commoners in such a design trajectory is seen just as important (Ache & Fedrowitz, 2012; Tummers, 2016). Members' active engagement is critical for community building, for more adequate design proposals, as well as for "more acceptance" (Meltzer, 2000) and "less conflict" (Williams, 2005) once the building is inhabited.

4.2.2 Designing the governance structure

Commoners need to establish a governance framework for their commons, defining the roles, tasks and rights of commoners and determining the short- and long-term progress of the project. Such a governance system consists of defining a legal form, a deliberation scheme and conflict resolution methods.

There are many *legal forms* for cohousing arrangements, and it's important that the legal scheme reflects the specific needs, priorities and aims of the group and its members. The values and the corresponding methods used to elicit these can be a starting point for the set-up of these legal schemes. For instance, the aforesaid method "*people, pound and property*" (Wrigleys Solicitors, 2017, p.9) can serve as a useful instrument prompting communities to reflect on matters that aid to delineate the legal form: Who controls the assets? How are decisions made? What rights do external partners have? What ownership structure do they want (resident- or community-owned)? Regarding the latter practitioners suggest initiators to visit existing communities to see how they work in practice as property ownership can have different models depending on group priorities and specific circumstances (Larsen, 2019; Tummers, 2016).

Next, commoning groups need to translate their objectives into a decision-making scheme that manages collective ownership and decision-making power over their resources (Durose et al., 2021). This entails a range of issues such as members' active involvement for the democratic articulation of their needs and arguments and the delineation of their duties and rights. It similarly relates to the formation of mandated workgroups, composing the daily management board and organizational facets of regular assemblies (Horňáková & Jíchová, 2019; Jarvis, 2011; Sargisson, 2012). Another primary task is designing a transparent decision-making system that in cohousing is mainly the consensus system. Yet, its mechanics still needs consideration, for instance, if decision-making and voting should be equal in the sense of "one member, one vote" regardless of how much money (external) stakeholders have put in – in this case, they need to ponder about what rights they have or how many people -and votes- households have so that the dominance of specific groups can be evaded

(Felstead et al., 2019b; Tummers & MacGregor, 2019). Collective decision-making is challenging and requires time, patience and commitment. It can catalyse conflicts and 'meeting fatigue' (Williams, 2005, p. 211), which can reduce social interactions and engagement. Therefore, studies recommend communities to set up vision statements and procedures early on to deal with expectations, management issues and members' behaviours. Yet, communities also need to be aware that too much regulation can choke grassroots movements. Hence, commoners are recommended to formalize important matters in resilient and adaptable rules which allow for progress and transformation over the later stages of their project (Anund Vogel et al., 2016; Stavrides, 2020).

Developing a formalized and robust plan for *conflict resolution* is considered a fundamental task in the initial stage as conflicts, dissent, and disappointment are organic parts of commoning (Gielen, 2016; Kornberger & Borch, 2015; Ostrom, 2005; Thévenot, 2014). They are often downplayed, particularly in cohousing that is often overidealized and thus disregards tensions being a regular phenomenon: "*We live close together, it is very easy for us to step on one another's toes, so oftentimes it is very easy for conflicts to arise*" (Sunward Cohousing, 2023). Such divisions are triggered by a variety of causes, for instance, the running of communal spaces and maintenance whereby the ownership structure is influential. Tensions in cohousing regularly also arise in relation to the balance between personal attitudes (e.g. individual rights) and collective values. And, community maturity also matters. Younger collectives have a higher level of internal battles (Hacke et al., 2019; Jarvis, 2011; Larsen, 2019). It is therefore important to address conflict resolution very early in the becommoning trajectory as the design process of the commons itself can also become a site for conflict (Scheller & Thörn, 2018).

To cope with conflicts the literature usually offers anticipatory approaches such as members' consciousness and willingness, education courses and guiding protocols comprising 'agonistic spaces' that embrace struggles about values, rules, inclusion and rejection in commoning practices (Björgvinsson et al., 2012; Mouffe, 2009; Seravalli et al., 2015). Another preventative approach suggested by Noterman (2016) is differential or uneven commoning allowing members to participate in ways they consider most suitable. Also, communities should give equal importance to informal norms in addition to formal rules to avoid *'living by contract rather than by contact''* (Eshuis et al., 2014, p. 236). Finally, attributing specific roles and the setup of a mediation guild are further reconciliation methods offered by academics and practitioners (Larsen, 2019; Ruiu, 2016).

4.3   Technological infrastructure

For the management of collaborative projects much hope is put on the prospective of digital technologies and, more recently, especially distributed ledger technologies (DLTs), such as blockchain-based platforms. They are seen as *''ideal tools''* (Cila et al., 2020, p. 3) for self-governing communities as they support the management of collective arrangements, like the tracking of the contribution to and consumption of shared resources, members' incentivization and sanctioning. However, there is also critique about the implications of this *''deterministic''* (Fritsch et al., 2021) techno-optimism: a technocratic view on the social dynamics of sharing, eroding social capital by using platforms vis-a-vis face-to-face encounters, barring intrinsic motivations by financial reward schemes, complexity barriers to access and participation and the mismatch between the fixed regulative models and the unpredictable messiness of everyday life (Heitlinger & Houston, 2021; Rozas & Huckle, 2021; Teli et al., 2018a).

Most studies on blockchain platforms for managing resource sharing (e.g. tourism, energy, property rights, intellectual & artistic work, global movements) are still conceptual, centring on the potentials and contextual conditions. This lack of empirical data is due to the fact that blockchain governance systems are still in their infancy, so the number of functioning cases is still relatively limited (Maquera et al., 2022; Peng & Huang, 2022; Poux et al., 2020; Valdivia & Balcell, n.d.). Yet, the literature offers some insights for constructing technological platforms for resource communities. It underlines the importance of context sensitivity, that is, the consideration of a community's unique combination of values, objectives, actions and local circumstances (Goodspeed et al., 2020; Ziegler, 2019). This determines the steering mechanisms underlying the governance system, the extent of automation and the resources and rules for digital encoding. It is exemplified by the cooperative blockchain frameworks ''Backfeed'' and Distributed Cooperative Organization (DisCO) Governance Model (Light & Miskelly, 2019; Spagnoletti et al., 2015; Van Cutsem et al., 2020). Finally, collective design of the technological infrastructure (design coalitions) is key to incorporate the perspectives of all contributors and users in the early stage (Jabbar & Bjørn, 2019; Jenkins, 2021; Kera et al., 2019; Teli et al., 2018b).

4.4 Boundaries: selecting members and relating to the neighborhood

A final design target in the becommoning process consists of the ways commoners wish to draw boundaries. This concerns setting rules about membership as well as determining the relation between a commons and its surroundings.

4.4.1 Selecting members

Although recent studies stress the porosity of commoning practices, the (self-) demarcation of a group remains vital to ensure the sustainable management of its resources. This especially applies to housing commons where access to membership is set in community' policies that define who is included and excluded. This requires communities to evolve careful selection and control mechanisms, especially for housing cooperatives as they usually target societal objectives like inclusivity, affordability, and diversity (Foster & Iaione, 2019; Glick et al., 2019; Marttila et al., 2014). For this purpose, practitioners and scholars point to the values and the rules articulated in the community as the key to "recruit" new members and verify their "compatibility" with the commons: '' *we do not want people who only need a residence but future tenants of whom you think to fit the group and are ready to contribute to the whole''* (Zonneveld & Lupi, 2018, p. 37). In this regard, like-mindedness versus diversity is a dilemma in commoning and especially housing commons: homogenic, inward-looking clusters may reinforce urban polarization while wide-ranging values and attitudes in a heterogenic community may impede governance based on shared principles (Anund Vogel et al., 2016; Nonini, 2017b). This may be resolved by hybridization – study outcomes display that heterogenic cohousing communities in terms of affluence and household type could be more viable and vibrant as long as residents have similar (homogenic) attitudes and values especially towards community and socializing (Aernouts & Ryckewaert, 2018; Noterman, 2016; Tummers, 2016; Williams, 2005). A greater diversity of residents ensures a greater diversity of communal resources and a variety of capacities amongst residents assures that issues can be dealt with in-house, which helps to strengthen social networks (Crooy & Lupi, 2017; Jonker-Verkaart, 2016; Tummers, 2016).

4.4.2 Relating to the neighbourhood

Cohousing communities can consider two main contrasting views -i.e. oasis vs. island- when they ponder about their relationship with the surrounding environment (Doucet et al., 2011; Nonini, 2017a;

Ruiu, 2014). The first one depicts cohousing communities as oases in the urban fabric, contributing to the quality of life in their broader setting. This fits the aims of most cohousing groups manifesting their intentions for and with the neighborhood: to break down physical, spatial, social and psychological "*barriers between the inside and outside*" (Ruiu, 2016, p.10) and apply their aspirations (e.g. environmental sustainability, solidarity, care) beyond their community. Hence, cohousers seen as ''*door openers*'' and ''*perfect strangers*'' are expected – and at times empirically evidenced - to have positive externalities and to function as catalysts of societal change in the wider context (Figure 3) (Bresson & Tummers, 2014;Tummers 2016; Droste 2015;Zonneveld & Lupi, 2018).

Another stream of literature presents cohousing groups as islands and draws attention to missing empirical facts about their openness to the outside, their positive societal outcomes and to their ambivalent effects - e.g. gentrification and segregation - on the broader locality. The island-approach of building a "*self-sufficient micro-cosmos*" however also does not safeguard commoners from external interference. Studies reported housing collectives facing initial opposition, hostility and suspicion from their surroundings (Ruiu, 2014).

In both cases housing cooperatives need to carefully reflect on their ambitions regarding the neighborhoods. They need to articulate how they intend to substantiate their aim to expand outward and which exterior support they may need for that.
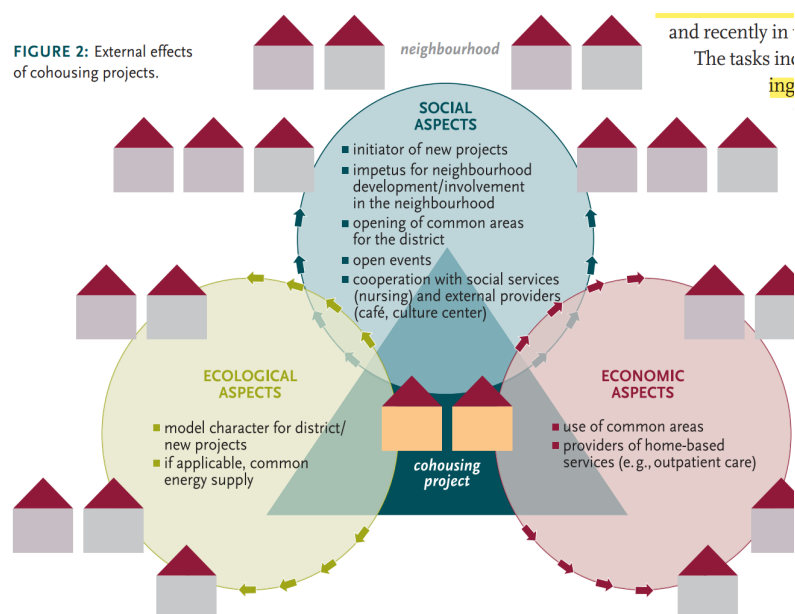

FIGURE 2: External effects of cohousing projects.

neighbourhood

and recently in
The tasks inc
ing

SOCIAL ASPECTS
- initiator of new projects
- impetus for neighbourhood development/involvement in the neighbourhood
- opening of common areas for the district
- open events
- cooperation with social services (nursing) and external providers (café, culture center)

ECOLOGICAL ASPECTS
- model character for district/ new projects
- if applicable, common energy supply

ECONOMIC ASPECTS
- use of common areas
- providers of home-based services (e.g., outpatient care)

cohousing project

Figure 3: Potential effects of cohousing on the broader surrounding. Source: Hacke et al. 2019, p.237

4.5   Facilitating and contextualizing

This aspect in the becommoning process concerns the ways in which community members need to influence or 'design' the context for their project. This includes the forging of coalitions with external parties, negotiations with local governments and other law makers, as well as the need to design a financing scheme.

4.5.1   Building coalitions

The role of proficient intermediaries in implementing housing commons is increasingly recognized by scholars due to the burdensome work and potential frustrations such projects bring about (Leyva del Rio, 2022; Hacke et al., 2019). Therefore, communities are recommended to ally with professionals who offer guidance and resources such as knowledge, expertise, finances, organizational and communication support, confidence-building, land acquisition (Wang et al., 2020), networking (Czischke, 2014b; Devaux, 2011; Hacke et al., 2019) and education. This "*hybridization of knowledge*" (Biau & Bacque, 2010, p. 131) in a co-creation process – i.e. who is the expert on what field –is seen advantageous for reaching high-quality co-housing arrangements. These allies operating on state, market, societal domains engage in different roles and extents depending on their specialization. For instance, established housing providers (e.g. housing associations, architecture firms, real estate developers) can act as facilitators of key resources such as land, money, planning permission, and qualified expertise. A further – inevitable - partner is the local government and especially the planning authority (Ferreri and Vidal, 2021, p.5). Scholars (Biau & Bacque 2010; Czischke, 2018) accentuate that a specific organizational culture from the side of coalition partners is essential to effectively evolve collaborative housing projects (Czischke, 2018): mediators with an ethos akin to commoners' values will more likely become and stay involved in the project as compared to their mainstream counterparts (Cabré & Andrés, 2018). Yet, studies caution communities to be aware of the probable lessening of sense of community among future residents as a result of engaging external developers. Therefore, members' active participation needs to be motivated throughout the whole developmental trajectory (Dioguardi, 2001; Brenton, 2008).

4.5.2.   Influencing their context

Coping with the institutional, economic, socio-cultural and political context on local, regional and national level is recognized in the literature as a major factor for the development of collective housing(Hacke et al., 2019; Jarvis, 2011; Williams, 2005). Studies encourage commoners to take context-matching strategies instead of replicating successful cases to accelerate their project. An important contextual determinant is the planning process wherein many confrontations occur due to housing norms, subsidy regulations, zoning plans, energy performance and other requirements (Tummers 2016). Consequently, residents often need to compromise on their idealized model. Therefore, it is vital that communities understand how to translate their specific aims and needs into policy requirements, in which external professionals and advisors can assist. Another contextual factor is governmental support enabling commoners to compete with developers of other types of housing in the traditional land market. Hence, cohousing communities should capitalize upon governmental aid in the form of land acquisition, pre-development grants, loans, or mortgages, understanding, design guidelines, and resources at the local policy level (Kramer & van Vilsteren, 2020; Wang et al., 2020). Beyond skillfully utilizing legislative support schemes the instrumental employment of lobbying activities towards public administrations is often found inevitable (Bunce, 2016; Ferreri & Vidal, 2022; Hölzl & Hölzl, 2022). This can occur on the institutional and political level to investigate regulative and legal obstacles, to formulate alternative approaches for shared ownership (Bresson and Denefle, 2015; Tummers 2016) and to incorporate changing values and urban cohabitation cultures into institutionalized planning decisions. A further contextual factor cohousing members need to take account is of socio-cultural nature - for instance, misunderstanding in society about collective housing (e.g. a heroic endeavor; hippies' communes) can discourage such initiatives(Wang et al., 2020). Such

complexities can be addressed by communities' conscious communication and reciprocal exchanges with the broader public about the sense, functioning and societal contribution of housing commons.

4.5.3 Financing

Financing, despite cross-country differences, is usually a prime obstacle to get a cohousing initiative off the ground (Deberdt et al., 2015; Scanlon & Fernández Arrigoitia, 2015; Williams, 2005). This mainly comes from the reluctance of mainstream banks that treat cohousing projects as corporations, thus demanding a watertight business case and offering unfavourable loan conditions. Nonetheless, banks perceive these initiatives insufficiently professional and thus require the inclusion of experts and additional measures (Zonneveld & Lupi, 2018). These supplementary expenses together with the mounting costs of such long co-creation trajectories need to be considered by communities on the onset, especially in view of affordability being a frequent objective of housing commons (Fromm, 2012; Labit, 2015).

Communities may overcome these financial limitations by partnering with cooperative banking institutions, housing associations and companies and by using municipal subsidy programs, funds, crowdfunding and cost-reducing construction strategies (Aernouts & Ryckewaert, 2018; Anund Vogel et al., 2016). Another strategy found in research is allying with developers that in any case engage in the construction of cohousing dwellings. This can occur in varying ways depending on the grades of community involvement, which the literature classifies in three main models (Figure 4) (Czischke, 2018; Durrett, 2009). In the first, an external developer (e.g. a housing association, an architecture firm) works with the community, builds dwellings to their specification and on completion sells the units to the members.
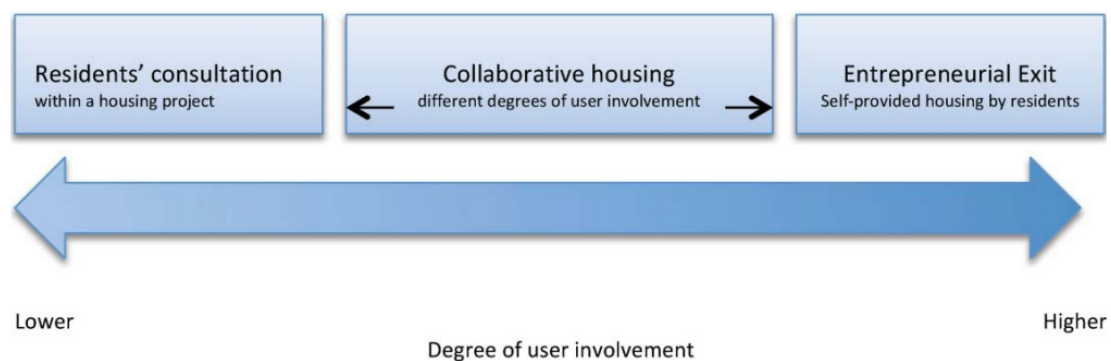

Figure 4: Residents' involvement in cohousing projects. Source: Czischke 2018, p.62

In the second model, cohousing members finance land-acquisition and construction costs out of their own pockets and/or with a mortgage, having total control over the process and bearing all the risks. In the third model, a developer creates a project without the input of future residents and sells the dwellings to any buyer who can then decide about further management and the use of common facilities. This model frees residents from development risks though the lack of participatory design does not enable the group to shape the physical space or benefit from its community-building opportunity (Scanlon & Fernández Arrigoitia, 2015).

5   Conclusions & discussion

This paper has approached the process of commoning from a design-angle, and gave a first overview of the various aspects that need to be designed when initiating a commons, taking housing collectives as an example. It demonstrated the importance of value articulation and community building as part of the design process. And second, it showed that the design process does not stop at the boundaries of the actual housing estate, but also includes activities aimed at activating, designing, coalitioning and lobbying in order to shape the right context in legal and financial terms for a new commons initiative, as well as its legitimation. These findings and the resultant 'becommoning' framework -despite using the specific case of housing commons as an illustration- are thus more generally applicable to commons movements. There is a great variety of commons in terms of resources, communities and organizational logic, thereby anyhow disabling the construction of a one-size-fits-all scheme. Yet, the framework evolved in this study displays the range of issues that can emerge in any initiative: value identification, community building, setting up a governance structure, dealing with disputes or allying with external partners typically occur in grassroots projects be they a communal gardening, an energy collective, a car-sharing system or a neighborhood space. So, the framework provides the main elements that are similar across commons initiatives while enabling to make amendments to the particular context of the community in question.

Grasping commoning through the lens of design can help to shape these various aspects, as well as the relations between them. The three main aspects brought out are not to be followed in a linear path as they constantly influence each other throughout the entire process. For instance, the values articulated serve as a compass when the building layout or ownership structure is designed. Co-creation in the design process can serve to further strengthen and build the community, and may lead to a concretization and reevaluation of the core values. Conversely, the legal and financial context influence the design space, and when an initiative is successful in influencing the context, the opportunities for the actual design also change.

Understanding becommoning as a design process also brings out the question of the designer. Who is the designer of the commons? This may point, as shown in the study, to the involvement of process facilitators and professional mediators who can take on the overarching guidance of becommoning, as well as the involvement of specialized designers who, for instance, can take care of the architectural design or the set-up of the technological infrastructure. These professional curators, or orchestrators can help safeguard coherence between the various phases and building blocks, support the ongoing task of community building and ward off detachment and collapse that can arise from frustrations and fatigue in such lengthy, tiresome procedures. Moreover, an important part of this work may be that of 'translation' that needs to occur between the three aspects: the articulation and concretization of a community's values into an actual design. Another point of the translation happens between the context and design-aspects. On the one hand, the contextual limitations (in terms of finances and legal requirements) need to be taken into account in the actual design. On the other hand, the values and aspirations of the community need to be reframed into the languages and procedures of the institutional context in order to gain legitimacy for a project.

This study set out to conduct a literature review to assemble existing knowledge about the primary phase of launching a commons. This enabled to evolve the analytical framework of 'becommoning', which can be applied in future empirical investigation. Future studies could also deepen knowledge

about the distinct building blocks of becommoning in practice, their relation to each other and the various design approaches involved in the process. This is also the intention in the next phase of our research project, wherein we can test the framework in our field labs of cohousing initiatives in the cities of Amsterdam and Amersfoort.In such a real-life setting, we can explore ways in which community aspirations can be translated to the actual design and implementation of commons-based organizations. This might also entail the identification of suitable approaches in the distinct sub-phases of becommoning, for instance - what are efficient design techniques to articulate shared values?, or, which methods can be used for designing a governance scheme for a resource community, which speaks to the principles of the commoners? Such queries will also be tackled in our ensuing experimental study by employing a situated design method. Gaining empirical insights could help 'becommoners' to get a deeper insight in the path they are to embark, and could help shape design practices, procedures or methods for becommoning-facilitators. Finally, future enquiry can take a broader approach to explore how the design decisions and actions in the becommoning path actually shape the functioning and life of the commons established and matured.

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