

Commoning in postcapitalist design practices

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Drawing from my doctoral project, this paper synthesises my main findings on how commoning is being practiced in design cultures. In my thesis, I first conceptualise the political economy of late-capitalist design as a ‘commodity-machine’: it produces market goods and thereby reproduces exchange relations —commodities leading to further commodification. A wide range of ecology, economics and design literature argues that this model constitutes an unsustainable configuration inseparable from financial, ecological and social crises. Borrowing insights from the social-ecological critique of André Gorz (2010), as well as more recent debates (Kostakis and Bauwens 2014; Mason 2015; Rifkin 2011; Srnicek and Williams 2015), I propose a comprehensive theorisation of emergent, ‘postcapitalist’ design cultures, which respond to crises by positioning themselves (either deliberately or implicitly) at a distance of capitalist circuits, exchange relations and market mediation.

I define what I understand by ‘design’ by distinguishing three instances in its political economy: a) the labour of designing subjects, b) the circulation of design projects and c) the making of designed objects. While this threefold model is applicable to a diverse range of design practices, the focus of the study is confined to the design of physical products. In the thesis, a number of exemplary and currently active design projects in the categories of everyday tools, building systems and industrial machines are studied in detail, blending each case methods of discourse analysis, design analysis and value analysis.

As this paper demonstrates, the commons and the practice of commoning are at the core of this analytical framework for multiple reasons. They provide three corresponding processes to design labour, knowledge and artefact. They elucidate the political economy of emerging practices in a consistent manner. They enable an alternative narrative, a commons-equivalent to the commodity-machine. Ultimately, they draw the contours of current state of postcapitalist design cultures and question the extent of design’s relative entanglement with capitalism.

Practicing design(ing)

There are widely divergent understandings, and no single definition of design. In the early, foundational stages of the discipline, practitioners have frequently preferred giving definitions to ‘good design’. Here is a very arbitrary selection, ranging from modest to ambitious: ”Design is form-making in order” (Kahn 1960, 169), ”Design is a conscious and intuitive effort to impose meaningful order” (Papanek 1984, 4), ”Design is devising courses of action aimed at changing existing situations into preferred ones.” (Simon 1996, 111), ”Design is a manifestation of the capacity of the human spirit to transcend its limitations.” (Nelson 1957, 22). Particular attention is given to design process, or to what exactly happens when someone is designing. This is the domain of the relatively narrow disciplinary debates on whether designers employ any discernible strategies or methods, and if they do, whether they derive from the arts, sciences, or have their autonomous sphere, elsewhere described as ‘design thinking’ and ‘designerly ways of knowing’ (Cross 2007). These definitions tend not to distinguish professional and amateur, for profit and for benefit, collective and solitary uses (and abuses) of design, and usually paint a positive, optimistic and inspiring image of design: it is a do-good, lateral-thinking, problem-solving, agenda-setting, world-changing cultural practice that is to be found everywhere and in everyone.

There are several reasons not to rely on such definitions in this study. Firstly, not all design is necessarily ‘good design’, and these restrictive, idealised definitions tend to exclude everything other than ‘best practices’. Secondly, defining design with universal and timeless qualities fails to register ‘really-existing-design’ as a cultural practice embedded in a specific time and place—in fact it is a European concept, stemming from the Renaissance and the Enlightenment, expanded throughout the Western civilisation and beyond. Rather than providing normative definitions to what design can be or do, the contemporary academic studies on design cultures have been increasingly interested in what design already is or does, with interdisciplinary methods that intend to make the elusive and contested concept of design more traceable and graspable through its interactions with societies, politics, economics, ecologies, technologies, aesthetics or other systems. Following Grace Lees-Maffei’s stages in design historiography, design cultures are conventionally studied along the separate stages of production, mediation and consumption. Shortened as the ‘PCM paradigm’ (Lees-Maffei 2009), this linear, object-centric analytical model is useful to study really-existing-design in its historical contingency. However, the major limitation of this approach is its predetermined separation of production and consumption by means of market mediation, and as such, being only sensitive to market-based practices. This is a typical case of ‘capitalocentric’ (Gibson-Graham 2006) field of vision that obscures the submerged part of the proverbial iceberg, or non-capitalist practices. Another approach to design studies is needed, one that covers a large array of existing sub-disciplines as well as emerging practices.

I propose an alternative threefold definition to design, deriving a specific meaning from design as a verb, as a noun and as an adjective. Supplementing the classical subject/object division with a mediating project, I name these three elements design labour, design

knowledge and design artefact. Firstly, the activity of ‘designing’ (as a verb) done by a ‘designer’ subject, takes place for a design (as a noun) to emerge. Marx distinguishes the architect from the bee by the labour-process of ‘raising his structure in imagination before erecting it in reality’ (1990). This is in fact a generalised human practice, one that involves intentional, subjective and reflective processes. While it is usually recognised as a creative, innovative activity, anything from making a bed in the morning to conspire a masterplan to conquer the world could fit this extremely vague and elusive definition. The normative definitions by design professionals exemplified earlier are specifically concerned with this original stage; making sense of designing (as a verb) serves as a justification of its existence as a human activity, it gives design a social purpose. Secondly, ‘design’ (as a noun, from it. *disegno*, fr. *dessin/dessein*) denotes a finalised project, a plan or a blueprint of a concept, the solution to a problem, with the intention of realisation. It is no longer in the hands of its designer; once the process is complete, the design has an autonomous existence on its own. It can take shape in a visualisation (as a drawing), a narrative (as a manual), or any communicative medium that can be distributed and circulated. It is the immaterial information or knowledge that precedes the material. Issues of secrecy, openness, access and control are determinant in how the plans will be deployed. Thirdly, a ‘designed’ (as an adjective) object or artefact is physical, material equivalent of a design; something that is made, built, constructed according to the plan. Not every design is materialised and not every object is designed; some designs remain fictional, in the sense that they remain unrealised; and some objects are fruit of immediate improvisation, without a preceding design phase. This coupling between a design and an object (in a broad sense) is thereby a precondition to consider something as ‘designed’ (as an adjective).

I observe several advantages of this triad for design analysis. The stages of design labour, design knowledge and design artefact may at first seem similar to the stages of production, mediation and consumption; they are both series of distinct, logical, sequential steps. The two visions on design cultures diverge in their focus; PCM paradigm requires an object to be traced ‘from cradle to grave’, whereas labour, knowledge and artefact can all be seen as instances of value creation. This approach downplays the emphasis on the object in its ‘plain, homely, bodily form’, and instead develops an analytical frame for design as ‘depository of value’. The labour of the designer is a valuable activity in itself, which is different than the blueprint of a project, and the final object involves its own value processes. By shifting the focus away from physical objects towards value forms, it is possible to have a broader view on the political economy of design. The PCM paradigm takes for granted the distance between industrial production and individual consumption, and specifically their mediation through the market. Instead of having the market mediation as the common ground that brings diverse parties together, at the centrepiece of this model is the design project itself, that mediates between designers and makers. Similarly, instead of an imaginary unity in the production phase where in reality manufacturing is subservient to designing, my framework distinguishes the labour of designing and making, each with their respective value processes. Ultimately, while the object-centric paradigm serves well as a descriptive tool to study already existing —if not dominant— practices of material production, it remains inadequate for the analysis of emergent practices that blur the boundaries of material and immaterial

production, or at the undefined boundaries of the marketplace. By contrast, since value itself is a ‘traveling concept’, crossing through economics, politics and ethics, a value-centric model would be applicable to descriptive, critical as well as normative research agendas in design studies.

Design is then both a social practice and a type of knowledge, which is in turn embedded in artefacts. This triad is a precondition for design practices to exist, regardless of any contingency of space and time, and is therefore the basis for expanded, non-capitalocentric understandings of design. Approaching design cultures from this angle immediately reveals characteristics that remain indiscernible from the vantage point of the PCM paradigm. The social practice of designing is in reality mostly reserved to professional designers that are used to enjoy exclusive rights, social status and higher incomes. The designs themselves immediately are associated not only with authorship, but with intellectual property rights, such as patents and copyrights. These give their patrons rather generous entitlements (protected and enforced by law) over the conditions in which the idea, expression or knowledge can be reproduced, put into use, modified by other parties. And finally, designed objects are predominantly produced in distant sweatshops, shipped across oceans, to be sold to consumers in shopping malls, only to be discarded to end up as toxic waste in landfills. Suddenly, design cultures reveal a strong political-economical bias, which appear to be normalised by the linear system of the Production-Mediation-Consumption paradigm. Following Hal Foster (2003), I name this circuit the ‘commodity-machine’, since (at first instance) it appears to produce commodities intertwined in manifold circuits of market relations, based on exchange value. In classical Marxist terms, this is expressed in the formula C-M-C: Commodities, produced to be exchanged for Money, which are in turn exchanged for other Commodities. Here, money is merely a means of market exchange to obtain the goods of subsistence, where the initial and final commodities are equal in value. This has been true for pre-capitalist economies, including artisanal production of physical goods, which may explain why the PCM paradigm appears universally legitimate, with (market) mediation processes being a seemingly inevitable part of design goods changing hands.

However, the crucial aspect of capitalist economies is the inverted form of the circuit: M-C-M’, which stands for Money, being used to produce Commodities, only to make More Money. Here, in the eyes of the capitalist, the commodity is the means to the end of accumulation, and everything necessary to produce a commodity (such are raw materials, tools and labour) becomes subservient to this logic. Understood as a commodity-machine, design cultures do not merely produce commodities sold in supermarket aisles, but (re)produce commodification and accumulation as such. Since it recreates its own conditions of existence, the commodity-machine does not stop, drives across the globe an incessant flux of commodities for purposes of further commodification (and in the process, transforms life into lifeless objects). In this light, the commodity-machine, initially perceived from a linear system, now appears as a self-reinforcing cycle of ever more commodification. The primary purpose of the commodity-machine is the expansion of a whole web of commodification surrounding the commodity. If the commodity-machine is not an autonomous process but it is

itself embedded within a larger cycle of commodification, then the contradictions of systems it depends on are also the contradictions of the commodity-machine. Petrina (2000) claims that “it is not only our products that have become ecologically unsound –it is our entire process of capitalistic design along with our lifestyles,” or in other words, it is not designed objects themselves that are unsustainable, but the economic relations they are embedded into. As much as individual designers might authentically aspire for well-being, sustainability or even justice, they nonetheless remain bound to the commodity-form, embedded in the commodity-machine. There is an invisible hand behind the visible hand of the designer: a structurally crisis-ridden, fragile, and therefore unsustainable commodity-machine that effectively operates as an unrivalled master-designer. This reasoning, alongside countless empirical evidence on how attempts to provide ‘sustainable’, ‘social’, ‘responsible’ design practices fall short, should be sufficient to explore design practices disentangled from the commodity-machine, and based on radically different relations than ‘wages, commodities and money’ (Gorz 2010).

Practicing commoning

The value-centric approach to design cultures not only renders the political economy of the commodity-machine visible, but also highlights how the counter currents operate. The opposite of commodities is the commons; the former are goods that circulate on the basis of exchange, the latter constitutes the goods available for sharing. It is worth noting that while the critique of commodities and commodification is well established in Marxist literature, the theorisations on the commons have remained a rarity until recently. In the last decades, the commons have reemerged in academic and activist circles as a general name for those alternative forms without being reductionist in regard to their diversity—a counter-totally. Neither market-based nor state-controlled, the commons have been conventionally conceived in two opposite categories: the defence of natural commons (land, resources) and the proliferation of cultural commons (language, knowledge). In the words of P.M., these commons correspond to access to ‘bites’, as in food or fuels, and ‘bytes’ as in digital information: “it’s all about potatoes and computers” (2009). While this polarity is in itself lucid and instructive, it does not do justice to the richness of the commons that are not strictly defined by a property relation towards some goods or resources. Silke Helfrich remarks that the distinction is an artificial one, since every natural commons requires the knowledge to manage them, and every cultural commons depend on natural resources: “The common denominator among commons is that each one is first and foremost a social commons—a social process.” (P2P Foundation 2017). Note that designed artefacts combine both raw materials and production knowledge; if conceived as a commons, design would be situated in the middle ground between the two types, or following Helfrich’s insight, design would constitute a social process that draws from both natural and cultural commons. This preliminary definition will have to be reevaluated following more recent conceptualisations of the commons.

Elinor Ostrom’s life-long dedication to the study of an uncountable variety of commons across the world makes her arguably the most consequential contributor to the theorisation of the commons. Beyond the strictly economic categories of excludability and subtractability, her conceptual innovation is to conceive the commons as institutions of collective action and governance, by commoners who regulate and manage the commons in non-hierarchical and non-coercive ways of self-organisation, thus setting the commons distinctly apart from state and market institutions (Ostrom 2015). Based on Ostrom’s design principles for successful commons, her followers increasingly developed a more relational understanding of the commons. Put differently, if there is a constant in the infinite variety of commons, it is neither the existence of (material or immaterial) resources, nor it is the existence of (formal or informal) rules, but people forming a community. But what do people, as commoners, really do with the commons? Another conceptual breakthrough has been the coining of the verb ‘commoning’ by the historian Peter Linebaugh (2014), to describe the activity or practice of the commoners. There are two intertwined meanings to commoning. The first one, closer to the previous definitions, can be understood as ‘doing in common’: to maintain, manage and govern a resource (and the institution around it) as a commons. The second meaning adds one

more aspect: to make, create or produce commons, or to put differently, to produce shared goods instead of exchange goods. The distinction could be expressed with the etymological difference between cooperation (to operate together) and collaboration (to labour together): what is indeed separated in industrial capitalism (leadership and base, management and execution, design and manufacture), is indistinguishable at the very definition of commoning. Finally, a third meaning to commoning covers the processes of reversing enclosures, i.e., putting in shared hands what has previously been commodified. Distinct from communalisation, which suggests abolishing private property by expropriating land, factories or infrastructure, commoning (rather modestly) implies ‘voluntary’ pooling of private assets as a commons.

Just as the commodity-machine is not a static property relation between subjects and objects, but a dynamic of commodification of relations, commoning is also to be thought as a (re)productive social process of generating shared value instead of exchange value. De Angelis (2017) generalises this as follows: “Commoning is the life activity through which common wealth is reproduced, extended and comes to serve as the basis for a new cycle of commons (re)production, and through which social relations among commoners—including the rules of a governance system—are constituted and reproduced.” Adopting a broader perspective, the instances of commoning activity appear to build commons systems that are mutually supporting, proliferating and reinforcing each other. For the (post-)Marxist scholars associated with the Midnight Notes Collective, this insight goes beyond the historical and contemporary analysis of the commons; it becomes a strategic vision for a political project to build counter power (Caffentzis and Federici 2014). If the commons are potentially a social force that resists and counters capitalist valorisation, not only vigilance is needed to avoid the risk of co-optation by capitalist capture, but also a programmatic willingness to replicate, expand and accelerate commoning with greater ambitions. Dyer-Witheford (2007) proposes a quasi-symmetrical analogy between the commodity and the common as the cell form of capitalism and ‘commonism’ respectively: “If capitalism presents itself as an immense heap of commodities, ‘commonism’ is a multiplication of commons” ((Collective and Holloway 2010), 110). He notes that “this is a concept of the common that is not defensive (...) Rather it is aggressive and expansive: proliferating, self-strengthening and diversifying. It is also a concept of heterogeneous collectivity, built from multiple forms of a shared logic, a commons of singularities. (...) It is through the linkages and bootstrapped expansions of these commons that commonism emerges.” Put differently, a commonist horizon—of systematic replacement of commodified relations by socialized ones—materialises in the construction of “complex and composite forms” (Dyer-Witheford 2006) by combining and integrating already existing practices of commoning.

Labouring design

Design appears to be a peculiar trade, in both senses of the term: it transgresses established boundaries of disciplinary, economic and cultural spheres. Designers occupy a niche (or rather, an intersection) that is neither the activity of the artisan nor the one of the engineer. While it is not repetitive, manual labour (as in low-skilled physical work), it is not purely a mental activity either; physical models are usually prototyped and tested. Designing encompasses working with matter, signs and people; it involves thinking, making and caring simultaneously, which makes the activity of designing a multicoloured-collar job. By inhabiting a cross-disciplinary intellectual sphere as well as claiming a concrete economic relevance, designers occupy a strategic place in a world that is thoroughly designed. Without an in-depth analysis, design may be mistakenly qualified as a form of holistic, non-alienated, socialised practice where creative, artistic or conceptual work is put into use ‘for the good of society’. What is missing is the social and economic dimension of designing, and the emphasis on who designs, and under what conditions. The division of labour among manual and mental specialisations is drawn along class lines, with lower classes destined to unskilled jobs and middle-classes occupying white-collar positions (*‘professions libérales’*). The study of labour relations is fundamental to understand the political economy of design. Labour is a primary factor for value creation in general, and for capital accumulation in particular. While subservient to capital, labour remains an obstacle, the site of conflict and friction to limitless accumulation. If, as Marx affirms, “the real not-capital is labour” (1990), then it is also a site of possibilities, the ineluctable point of departure for any alternative form of social organisation and economic valorisation. By adopting a labour point of view, it is possible to make space for a new conceptualisation of design, one that mediates between the ideals and the reality of design practices. To put in another way, design labour consists of design practices plus social relations that condition them. Design labour is then to be specifically understood as design practices deemed socially beneficial, and as a result, economically valorised as such. I conceptualise design labour as a precondition for producing design knowledge and design artefacts, and as a distinct instance of value creation than the instance of manufacturing the artefact with that knowledge. This distinction is conceptually helpful to determine what exactly gets valorised and what remains hidden from view.

Design labour is situated both inside and outside the commodity-machine —halfway between art and commodity, preserving a potential that is irreducible to surplus value creation. From a market point of view, design labour is a rather strange, untameable beast —as a process of trial-and-error, speculation and unquantifiable results, there is a degree of resistance to the commodity logic inherent in it. One cannot force a designer (or a researcher in the university, for that matter) to become more competitive, efficient or innovative ‘during working hours’, the way one can force a fast-food worker. Attempts to subordinate design labour by increasing pressure (i.e. delivery times, intensified productivity, market performance) will not deliver better results; without the right conditions, profitable and ever-growing value creation may not materialise, and it may even become economically counterproductive. Nonetheless, following the generalised drive towards precarious and flexible forms of employment,

permanent contracts in the design sector have also become harder to obtain. Designers increasingly work as freelancers, depending on more or less reliable commissions from commercial clients, as well as exhibitions or fairs that are meant to increase their visibility. As the working hours of freelancers are much less defined, the distinction between occupation and job is increasingly blurred. By leaving the control over production to the self-employed, self-exploited designer, the client effectively ceases to valorise the labour; instead, it is only the resulting blueprint that is remunerated, on the condition that the results satisfy the market objectives of the client. This may appear rather paradoxical, considering that the work of designers is a gift that keeps giving; it is a precondition for subsequently generating further value from design blueprints and artefacts. This is however how design, just like other creative practices, is disciplined and put at the service of commodity production; whenever the labour process cannot be entirely mastered, commodity regimes do not valorise labour independently from the outcome of that labour. When the relation between the designer and the client is one of trading the ownership of the design in exchange of money, the designer surrenders all rights of the project except its authorship. The greatest challenge of non-market design practices is to reverse this process; the valorisation of design labour itself without consideration of its productive outcome (or in other words, the autonomy of the designer), and the liberation of the design knowledge from the exclusive control of the client.

Design practices are integrated to the industries in multiple ways, but other market mechanisms interfere (or clash) with design labour as well. For instance, designers are expected to be in competition with each other in their respective categories; multinationals with internal design departments compete among themselves, design consultancies seek to attract more prestigious clients, and freelancers strive for broader recognition, with some degree of collaboration between like-minded designers. While designing may express social visions, induce affective responses and ultimately shape individual behaviours and social relations, from an economic point of view it is only the output that matters; at the end of the day, designers are expected to provide a working, understandable and replicable model to be reproduced in numbers. If the designer does not deliver patentable or profitable results in a given time frame, then the work is considered a (market) failure. By indirectly commodifying design labour, socially beneficial qualities of design labour are eclipsed by the drive for its valorisation in the economic sphere, and innovation and aesthetics are put at the service of capital, only to be valorised by the market. Boehnert (2014) argues that “the practice of design, understood as a socially beneficial activity engaged with building a better world, is integrally in conflict with the design industry”. This ambiguity is a recurrent characteristic in the recent conceptualisations of a contemporary ‘new economy’, described under various definitions, such as immaterial or cognitive labour (Lazzarato 1996; Moulier-Boutang 2012), knowledge production and creative industries (McRobbie 2001; Hartley 2005; Raunig, Ray, and Wuggenig 2011), which have become predominant following the post-Fordist transformation of Western economies. It may at first seem redundant to introduce yet another partially overlapping and slightly differentiated concept. However, none of the archetypical characteristics of the new economy are particularly new developments; design labour since its inception appears to present such features, and has remained broadly stable across major transformations. In other words, what was once a particularity of design labour has now been

generalised throughout the economy. If design labour has been a forerunner of the organisation of post-Fordist labour, then the economy was reorganised by design labour twice; first by generalising industrial production, then by generalising post-industrial labour organisation. By extension, the ongoing transformations of design labour are significant as they may also be indicative of future transformations of labour as such. In Marxist scholarship, labour not only transforms nature, but as a result, also transforms the labourer subject itself. Can design labour be thought disentangled from capitalist valorisation —and would it still be labour?

Peer-designing

Commoning involves commoner subjects —in this case designers, or creative work at large. How does commoning transform the design process? Are design skills, tasks and decision-making being redistributed? The key concept here is peer production, or, “to create value in common” (Bauwens 2008). This suggests an affinity with already existing methods in the creative process, such as collaboration (co-design) and participation (user generation). With or without monetary remuneration, these tendencies testify to a relative opening up of decision making, as well as novel approaches to authorship. The second dynamic is the commoning of design projects themselves. The premise of information technologies and peer-to-peer networks to create unprecedented opportunities for open/free/public circulation of the general intellect are extensively studied and debated. Gorz (2010) and many others argue that knowledge, being digitally reproducible and therefore abundant, tends towards becoming common property. Commoners in peer production both rely on those resources as input, and return their output to the public domain (open source, copyleft, creative commons). In other words, the knowledge of building the common is produced (developed) and reproduced (shared) by a community. This proliferation is now observable in hardware design. The extent in which open design might have inherent ‘competitive’ advantages over proprietary systems needs to be investigated. Ultimately, designed artefacts can also become peer-property, common objects in the service of a productive community, constitute the tangible basis of production, either for individual or collective benefit. These presuppose right to access to localised, distributed means of production. It is possible to extend this sphere to include diverse material cultures ranging from 3D printing to collaborative consumption. While these are not quite equivalent to taking over the existing industrial infrastructure, they testify to the emergence of the self-production of means of production. What kind of implications such a capacity to collectively self-create (autopoiesis) would have, on the control over the allocation of resources, in terms of resilience, self-sufficiency and autonomy?

Formally, the designer designs for the user, on behalf of the manufacturer. There are a few trends that are observed by design scholars arguing that these boundaries of design practice are becoming less defined, more porous and more inclusive. If the definition of design labour is to be extended to include non-commodified forms, then several types of design-related activities have to be considered for inclusion. Three strands of activities can be distinguished; the (re)emergence of craft, DIY and amateurism bypassing designers altogether and blurring the line between users and makers; inclusive or participatory design practices with diverse stakeholders, in particular with users steering the process; and collaborative design examples where various experts and professionals take part in a creative process facilitated by designers. The relevance of such transformations deserves to be scrutinised in order to establish whether the shifting roles of the designer and the new subjects that design constitute evidence for shared value creation in design labour. The interchangeability of those who design, decide or realise indicate increased complexity in terms of attribution, responsibility and rewarding of design practices. Ultimately, what is surprisingly missing in all of these

above-mentioned approaches is perhaps the most obvious partner for a designer to collaborate with: other designers. This crucial separation among the designers themselves deserves to be contested and to be surpassed by collective decision-making processes. In other words, generalised forms of designer-to-designer collaboration suggests a potential affinity between collaborative design practices and peer-to-peer theories. The collaboration of likeminded peers, whether they may be professional or amateur practitioners, would be the most appropriate framework for a commons-based valorisation of design labour. The issues that are raised by emerging practices surpass the existing definitions of co-design, thereby necessitating alternative approaches more suited to provide a labour-based value analysis.

Even though the most significant share of design practices is realised by professionals, there is considerable cultural attraction and increasing exposure of amateurism. It is widely acknowledged that design is not solely a job, but equally presents itself as an occupation (Lupton 2006; Collective 2007). An occupation remains distinct from a ‘professional career’ by its lack of visibility, recognition and remuneration —not unlike the conditions of other forms of unpaid labour, as observed and criticised by feminist scholars (Federici 2012, Gibson-Graham 2006). Atkinson (2006) defines DIY as the antithesis of professional design: “a more democratic design process of self-driven, self-directed amateur design and production activity carried out more closely to the end user of the goods created”. For the purposes of this research however, I distinguish non-professional design from everyday improvised bricolage practices by the availability of documentation and the circulation of designs, which is made more accessible than before with information and communication technologies. What was previously an untested hypothesis (or wishful thinking) that ‘everybody is a designer’, is now evidenced by and accessible via online platforms. There is however, more potential in online tools than being merely a glorified shop window for every individual hobbyist. Internet not only facilitates sharing finished designs and objects (which will be further investigated in the next chapters), but also opens up the possibilities for collaborative designing processes bringing together professionals, amateurs and users alike. What sets apart the emerging practices is that they cannot be entirely explained within the field of DIY or ‘maker culture’ and therefore require novel theoretical tools to understand their labour processes.

There has also been growing recognition for design processes that seek more or less active involvement of multiple stakeholders (Thackara 2005; FuadLuke:2009td. Schwarz and Elffers 2010; Van Abel, Evers, and Klaassen 2011; 2011). Discussed under an ever-expanding collection of more or less precise names (including but not limited to: social design, participatory design, collaborative design, user-centred design, co-creation and meta-design), these practices have been analysed and largely celebrated for opening up the design practice to be driven by consumers, users or citizens, to include diverse forms of expertise, or to synthesise sometimes conflicting interests. Indeed, the modalities of collaboration are most of the time to bring together differences and to reveal and tap into the designerly problem-defining or problem-solving instincts of non-designers. This form of participatory design can be in turn seen as a form of ‘outsourcing’ of expertise to free labour, perhaps in the same vein as the non-remunerated value creation practiced in social media platforms (Terranova 2004).

Still, some of these practices may succeed in overriding the expectations of a client, in favour of the user's needs. Others remain at the stage of an elaborate 'focus group' activity in order to better target customers. The most striking development has been the reappropriation of 'design thinking' methods by business and management schools; 'everybody becoming a designer' does not necessarily redistribute problem-solving capabilities, but puts those capabilities in the hands of those who can most profit from them. Chick et al. (2011) argue that "designing with, rather than for, a community of users does not mean allowing them to design for themselves. The designer is still at the centre of the process, but working more inclusively." Following this observation, more inclusive processes do not make a difference if they are embedded in the same exclusive economic structures, leaving the steering to those already in charge.

These attempts give sense to the dissolving boundaries and participatory tendencies, in activities that were previously considered to only be professionally and hierarchically organised. Such novel practices are best understood through the lens of Peer Production. Some general definitions on Peer Production are necessary before focusing to the specificities of its impact on design labour. 'Peer' is a familiar notion in academic context, denoting an equal footing and reciprocity —peer review has been a key method for scientific inquiry. Peer to Peer (P2P) extends this meaning by emphasising the distributed and networked organisation of peers. Peer Production in turn means that networked peers cooperate voluntarily and work towards a common goal —in Bauwens' terms, it is "the ability to create value in common" (2006). Finally, the full expression "Commons-based Peer Production" (Benkler 2006) is intended to signify nothing less than an entirely new mode of economic production; in his words, it is based "creative energy of large numbers of people is coordinated (usually with the aid of the internet) into large, meaningful projects, largely without traditional hierarchical organization or financial compensation." Silke Helfrich (2013) conceptualises this mode of production in slightly different terms: instead of commons-based (where the commons are conceived as a resource), she proposes the term commons-creating peer economy, which puts the emphasis on the social process of commoning. As such, P2P is a framework that is applicable to a wide range of social practices, including regimes of governance and property. Looking at the organisation of labour, Dafermos (2015) notes that in peer production tasks to be executed are determined and self-appointed by the peers themselves, while important decisions about the entire project are taken collectively based on consensus. Stigmergic collaboration, a form of self-organisation and social negotiation that relies on indirect, distributed coordination of actions, mediated by modifications in the environment is another key organisational principle of peer production (Kostakis and Bauwens 2014). This is not how classical division of labour operates: in industrial systems, tasks are hierarchically attributed, they are determined by the input of others in the chain, and they do not require an overview of the entire process by isolated workers. The first characteristic of peer production is then the transformation of labour relations away from both artisanal and industrial forms, while maintaining a relative degree of compatibility with currently dominant post-Fordist organisation of work. This ambiguity distinguishes Peer Production from its predecessors, and raises questions whether it is co-optable. Bauwens and Kostakis do not endorse a neutral overlap of two economies,

nor exactly a peaceful cohabitation:

We argue that the expectation that one can change society merely by producing open code and design, while remaining subservient to capital, is a dangerous pipe dream. Through the ethical economy surrounding the Commons, by contrast, it becomes possible to create non-commodified production and exchange.

While their argument specifically cites the role of design, they emphasise the creation of a commons-producing economy, where the community becomes the ultimate asset, or the infrastructure that sustains such activities. Having previously argued that there is no valorisation for design labour separate from its outcome, and with the blueprints being shared freely, how does a peer-designer earn a living? Without the means to sustain their livelihood through their work, peer-designers currently need to be engaging in other, wage labour or other market-based practices rather than in their peer-design practices alone. So far, time availability and alternative sources of income seem to be preconditions to secure the social reproduction of peer production. In other words, commons-producing practices are still subordinate or parasitic to market-based relations, thus they do not constitute an autonomous sphere of value creation (Seaman 2002). However beneficial the outcome may be, they remain inessential, independent contributions at the whim of peer-designers, instead of being indispensable for social reproduction. For peer-designers to reproduce commoner subjectivities, the establishment of institutions of collective action that brings them together more or less formally appears as a necessity. These peer-designer communities based on free association principles have a better chance to secure their livelihoods and socialise their design labour than loose networks of peer-designers. A step further, an open cooperative model may be adopted, which provides access to non-commercial entities (namely other commons-producing cooperatives), while charging Peer Production Licence fees to commercial entities (for-profit companies) that would like to gain access. In the same paper, Bauwens and Kostakis suggest that this approach reverses the “Communism of Capital” (free-riding of commons for accumulation purposes) and generates “Capital for the Commons”, effectively confront the marketplace by providing a counter-current to the capitalist valorisation of design labour. Following their line of thought, by aligning themselves with common needs, designers that are interested in sustainability, social design and sharing can converge around common means (decision making) and common ends (value creation), thus consciously and concretely co-designing exit strategies and pathways away from the commodity-machine, towards postcapitalist design cultures.

Becoming designer-commoner subjects

The analysis of design from a labour perspective reveal remarkable developments in the networked, cooperative labour relations among designers. On one hand, designers are subject to either hierarchical or competitive working environments that are in conflict with design methods and ethics. On the other hand, while increased opportunities of cooperation are observed between designers, manufacturers, users and other stakeholders, collaboration between freely associated designers themselves is not exactly widespread. There are attempts to introduce open standards, distributed modularity and forking of contributions, and hints at how designer-to-designer collaborations can be encouraged, organised and valorised. Peer-to-peer theory is an appropriate framework to distinguish and examine commons-based valorisation of design labour, mainly because the affinities between commons and P2P scholarship have already been well established, with software development as the primary manifestation of peer production. It testifies how peer-produced objects can reveal the organisation of their design labour, unlike the masking of social relations on the surface of commodities. However, several critical challenges exist for successfully adapting these methods to product design. I have determined several preconditions for the actualisation of such possibilities. Firstly, peer-designers need to be able to sustain themselves and have viable livelihoods in order to engage in alternative value practices. Secondly, the establishment of open design cooperatives based on the free association of peer-designers appear to be essential for the reproduction of commoner subjectivities. Thirdly, the success or failure of such commons-producing design communities depends on their capacity to claim an autonomous sphere for the valorisation of their labour. Ultimately, for these institutions of collective action to tackle collective design problems and co-design an exit from capitalism, an alignment of individual, collective and social goals needs to take place.

In an object-centric approach, the priority would be to determine what constitutes ‘common goods’, which can be defined as goods “in the sense of being social objects of value, use values, objects (whether tangible or not) that satisfy given socially determined needs, desires and aspirations” (De Angelis 2017). In a subject-centric analysis of value-creating labour practices, it is possible to distinguish the instances of commoning in design. Where the designer subject melts into the network of peers, the reproduction of designer-commoner subjectivities begins: a dynamic, regenerative process that determines how production is organised and valorised. While they still remain to a certain extent entangled with the commodity-machine, it is possible to identify and practice the reverse commoning dynamics. Against the triple commodification of design labour, knowledge and artefact, three simultaneous and interdependent stages of commoning is conceivable. A web of diverse, commons-based (shared-value generating) design projects of today could evolve towards self-sustaining, reinforcing and flourishing postcapitalist design cultures of tomorrow, where common goods are designed, manufactured and provided access to. Made legible through the lens of commoning, postcapitalist design cultures are not only situated in relative autonomy to the commodity-machine, but also carry latent potentials to counter the disciplinary mechanism of the market as such. Considering that design consists of both material and

immaterial goods —therefore potentially a combination of both kinds of commons— there is great relevance in initiating a commons transition in design practices. It is then possible to rephrase the questions of Michael Hardt (2009) about the role of the artist:

What possibilities are opened by the recognition that [design] practice and political action are both engaged in the production and distribution of the common? Can [designers] participate, through their [design] practice, in the many contemporary political struggles around the world in defence of the common, for an equitable distribution and autonomy in the production of the common?

As I discussed design practices from the angle of labour, three archetypical figures or subjects have emerged; the designer in its current state of entanglement in market relations, the peer as the emergent model of the worker beyond hierarchy and competition originating in software development, and ultimately the commoner, or the latent potential of peer-producing designers as shared value creators. In the thesis, I complement design labour with other decommodified valorisation strategies in design knowledge and design artefacts and their respective case studies reveal new insights on the potentials and limits of commoning practices. OpenStructures extensively relies on ‘peer designing’, where design activities are pooled and redistributed by means of collaboration, participation and amateurism. WikiHouse and OpenDesk illustrate the role of ‘open blueprints’, where the design knowledge and documentation are distributed with commons-based licenses. Open Source Ecology and Precious Plastic are prime examples of ‘maker machines’, which enable makers to self-produce the means of production —tools put in service of a community. All three strategies are observable in all the case studies at varying degrees of success. Shared value creation is seldom practiced in isolation, but it rather engenders and reinforces the other ones further. All case studies manifest a productive tension between speculative discourses and prefigurative practices, synthesising creative work and political action. Considered together, these projects express a collective desire to develop a counter-industrial model of post-scarcity that provides ‘everything for everyone’. Commoning of design artefacts occupy the strategic middle ground between commoning of natural resources and of knowledge production, together constituting a ‘commonist’ political project. However, in order to enable their widespread adoption and disruptive potential vis-à-vis their market counterparts, some internal contradictions and other external preconditions still need to be addressed. By gathering evidence and producing reflection on these practices, understanding the extent in which commoning potentially disentangles design from its commodity-form is key to prefiguring a viable, desirable and equitable basis for the production and distribution of material artefacts, and by extension, a sustainable civilisation beyond the commodity-machine.

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