

# TOWARDS THE PRODUCTION OF DESIGN COMMONS:

## A MATTER OF SCALE AND RECONFIGURATION

**Although new methods of collaborative production might seem to anticipate a communal era in architecture, Harvey argues that commonality strategies that work in small organizations cannot be reproduced in other scales. With this warning as starting point, this article asks for the alternatives of commonality in architecture in its various levels, ranging from object design to urban planning.**

KEYWORDS · architecture, commoning, new economy, collective, immaterial production

The commons, intended as an alternative system which covers aspects of production, governance and property, as they are more and more involved with the ways people live, consume and understand themselves, seem to be increasingly intertwined with the disciplines of design and the production of space. The commoners' designing and dwelling, within their social and built environment is, thus, leaning towards the production of designing commons. And although they are already producing design by themselves as a product, this paper proposes the necessity for inventing ways to initiate an effective-in-itself production of the design of commons and of a common design. This is put forward by examining the relation and potential relevance of the notion of the commons to the par excellence discipline of design-to-construct/make/produce, namely architecture, in its variety of scales and tropes.

### WHY COMMONS NOW?

#### COMMONS IN THE NEOLIBERAL ERA

During the last fifteen years, discourses around the commons have gradually gained ground in theoretical and social studies; it is not surprising that, due to its relation with the implications of the ongoing global crisis of capitalism, "commons is becoming a ubiquitous presence in the political, economic and even real estate language" (Caffentzis, Federici, 2014:192). This is making the concept attractive to various users, who need to promote their own interests, which sometimes happen to be even in an anti-commons direction. Thus, more accurate descriptions are needed around the commons, in theory and praxis. The previous, 'softer' taxonomies (new-old, natural-artificial, etc.) are increasingly being replaced by more specific terms, i.e. anti-capitalist, urban, productive, collaborative commons.

One should keep in mind that the concept of the commons has an already established relation to capitalism, which includes two basic

**Elena Antonopoulou**

**Christos Chondros**

**Maria Koutsari**

Escuela de Arquitectura, Universidad Nacional  
Técnica de Atenas, Atenas, Grecia

---

aspects: the enclosures and the distorted commons. Enclosures, originally mentioned in Marx's *Capital*, refer to capitalism's methods of primitive accumulation, which constitute an ongoing feature of capitalism, constantly expanding in time and space. In the current framework of globalization and neoliberalism, the concept of primitive accumulation is being reconsidered and enhanced under the term of "new enclosures", referring to practices such as gendered oppression, informational accumulation, debt crisis, environmental pollution and climate change, as well as gentrification and touristic exploitation and "commodification" of culture and creativity (Harvey, 2012:72). Additionally, the "distorted commons" are these kind of common resources which are essential to capital's viability and are constantly exploited to produce for the market, seeming to expand and thrive, promoting further spatial controls, policing and surveillance, in the veins of the hegemony of neoliberalism and the generalized regime of post-fordist accumulation.

The recent rise of social movements and self-organized social structures reveals a certain eagerness for a community built on the social needs of its population. Various citizens' movements focus their efforts on housing, food production, energy use and so on, creating bottom-up, self-organized structures of solidarity. It is a fact that the commons suggest something wider than a model for minoritarian localities of constant resistance to opposed hegemonic models. Yet, even on such a state, commons are under constant attack, as capitalist development attempts to expand further enclosure and expropriation of communal properties and relations. This is perhaps due to the fact that commons act as buffers against the destructive impact of neoliberalism and offer a communal management of resources, even if they essentially remain as "pathways to capitalism with a human face" (Caffentzis, Federici, 2014).

#### **WHAT COMES NEXT?**

Are we entering something new? A post-capitalist period? A commons era? Is the so-called 'new economy' really new or is it another adaptation of capitalism to phenomena, such as high automation of production, explosion of information and communication technologies, networked collaborative practices and so forth? So far we can only read gradual transformations affecting the social, economic and political levels, coupled by a latent presence of the commons serving the need for a different:

A. **MODE OF PRODUCTION.** An attempt for a definition of a mode of production could be beneficial, in order to identify elements to be included in the analysis of a moving forward towards a deployment of a

new, alternative mode of production, in an unprecedented way. However, it could not be appointed as a closed and determinate description.

A matching fit seems to be Althusser's initial definition, since its formulation bears a practicality that still proves useful. So, "predicated on a very special type of relationship between the structure and the elements which this structure is supposed to unify", a mode of production "is a particular 'combination' of elements", indicated by him as: accumulation of money (by its owners), accumulation of the technical means of production (machinery and working experience), accumulation of raw materials (nature) and accumulation of producers (the proletariat, bearing nothing but its capacity to work, distinguished from its evolution into a working class) (Althusser, 2006:198).

This formulation is based on floating elements, whose combinations can yield spectacular and peculiar, yet non-teleological outcomes. Simultaneously, the notion and scope of production of objects, codes and codifications, bodies, affects, desires etc., in the generality of the term, though it seems compatible to the commons' attributes, does not cease being a recurring and basic refrain.

**B. METHOD OF GOVERNANCE.** The issue of governance is also being challenged strongly in the framework of a new commons era, revealing new strategies of common management and communal procedures of decision-making. In opposition to hierarchical forms of organization and authoritarian state interventions, 'commoning' proposes an alternative form of governance, which is non-state, non-hierarchical and horizontal. Elinor Ostrom (in Harvey, 2012:69) shows, through several case studies, that there are successful collective ways to manage common property resources for individual and collective benefit. Small-scale solidarity schemes showcase viable examples of localism and autonomy, which are based on the idea of strong participation of the 'commoners' and democratic distribution of commonwealth among the participating individuals.

What is to be questioned though, according to Harvey (2012:69), is the issue of scale. What we learn from case studies in small-scale organizations cannot be uncritically implemented in metropolitan, national or global scale. Harvey believes that successful management and governance practices in small and local scale need to be revised towards more nested and even hierarchical organizational forms in larger scales. Thus, we should acknowledge the limits of horizontal schemes and be prepared to go beyond them, towards a symmetric model to capitalistic governance methods, and even enclosures, from a common perspective (Harvey, 2012:70). This statement, as controversial as it may sound, is calling for a return of the commons as a political question.

**C. PROPERTY TERMS.** Nowadays, the nature of goods, the production processes, as well as the value produced and extracted, alternate property regime. "[I]n digital context cultural works and knowledge goods are fundamentally different from physical goods, since they can be easily and cheaply copied, shared and transformed. Because sharing means multiplying rather than dividing, they are naturally abundant" (Stalder, 2010). For a better understanding, one should conceive that property, in general, is the 'enemy of freedom', as it constitutes the ability to control and 'own' productive assets, which someone else puts in use. Property is not a natural phenomenon but a legal construction, or, in other words, it is the ability to control a scarce resource even when it is being used by somebody else (Kleiner, 2007).

Yet, what is the analogy between physical and intellectual property? Although physical property is scarce and rivalrous, intellectual property is not; while property itself is created by law, material assets are scarce and rivalrous by nature. However, because copyable information is made scarce only by law, it can also be made abundant by law, which brings forward the concept of copyleft (Kleiner, 2007). Copyleft or even Copyfarleft constitutes a set of movements and licenses which secure intellectual property freedom, by promoting 'the four freedoms' of information and knowledge: use, study,

---

**«Harvey believes that successful management and governance practices in small and local scale need to be revised towards more nested and even hierarchical organizational forms in larger scales. Thus, we should acknowledge the limits of horizontal schemes and be prepared to go beyond them.»**

---

modify and redistribute (Kleiner, 2007). Those licenses are in effective use mainly in the fields of free software, free culture and access to knowledge movements. Although there are still a lot of multileveled problems to be solved, copyright “was turned upside down in practice through free licenses that guaranteed user freedom instead of produced control” (Stalder, 2010).

## **ARCHITECTURE AND THE COMMONS: POSSIBILITIES OF COEXISTENCE**

### **ARCHITECTURE VERSUS THE COMMONS**

We can describe the traditional architectural process as follows: architects appear to undertake the responsibility of designing and constructing what they think optimal for their client, in terms of form, function and even the way of living. The architect interprets life desires and patterns, as well as living habits into space. The architect-client interaction is usually limited to discussions and verbal descriptions on the client’s side (as a non expert) and various kinds of representation on the architect’s side (as an expert). The architect may be considered as the intermediary between user/inhabitant and produced space. Usually, the relations that are developed are not characterized by equality and peer access. The architects, on the one hand, own technical and scientific knowledge, while the clients on the other, own the project, in terms of immaterial commands and material resources. Issues of authority, hierarchy, identity and ownership are always at stake in the process of architectural production. The ultimate goal of architecture is to deliver a final, complete, rigid, constructed, material result, which has limited capacities of change and transformation over time.

Architects usually demonstrate a lack of understanding regarding the way non-architects perceive the final outcome of their work. “Architects [do] not merely disagree with laypersons about the aesthetic qualities of buildings, they [are] unable to predict how laypersons would assess buildings, even when they [are] explicitly asked to do so” (Gifford et.al. in Mehaffy and Salingaros, 2011). This phenomenon may have its roots in the academic training of architects, the evaluation methods they are accustomed to, as well as the rewarding systems that are established around their work (such as architectural competitions, publications in design magazines etc.). The contemporary layout of the architecture industry calls for attention-getting product design –that is more interested in the final outcome as an illustration, “almost like a good advertisement” (Jacobs, 1961)–, rather than as an answer to the complex needs and aspirations of its users. Architects often do not see how certain designs disconnect and isolate people and create hostile environments that cannot be shared, a phenomenon that is attributed to their “architectural myopia” (Mehaffy, Salingaros, 2011).

Commons, on the other hand, refer to material and immaterial resources, which the humanity can equally access and share. Another approach acknowledges the commons as something constantly created through social interactions (Hardt, 2006:72).

Commons are not given, they are produced. [...] [I]t is only through cooperation in the production of our life that we can create them. This is because commons are not essentially material things but are social relations, constitutive social practices. This is why some prefer to speak of 'commoning' or 'the common', precisely to underscore the relational character of this political project. (Linebaugh in Caffentzis, Federici, 2014:101).

Moreover, the common is not stable, ensured or secure; rather it is constantly produced by the multitude of singularities. It is based on communication and cooperation among singularities, prerequisites that are currently empowered through the networked, interconnected and increasingly urbanized world. In the era of globalization:

[W]e cannot speak of "global commons", as these presume the existence of a global collectivity which today does not exist [...]. Thus, when we say "No Commons without Community" we think of how a specific community is created in the production of the relations by which a specific common is brought into existence and sustained. (Caffentzis, Federici, 2014:102).

### **DESIGN AND IMMATERIAL PRODUCTION**

The previous descriptions of architecture, in its 'popular' definition, as well as of the common, reveal an incompatibility between them on a first level, which is overturned if we move the attention to the examination of the emerging economic production. In conversation with Michael Hardt, Christopher Hight argues "every form of production becomes a problem of design". Hardt agrees and explains that this implied ubiquity of design is better conceived within the framework of a current general transformation of economic production; "the production of immaterial goods such as knowledge, images, codes, communication circuits and even affective relationships is playing a more important role in the economy". Thus, if one is accepting the claim about the hegemony of immaterial production, then "the ubiquity of design immediately becomes clear because design is really [...] just a general name for the types of production we are talking about". Hardt concludes by highlighting the hegemonic position of design in the current economic condition and explicitly says that "there can be no production without it [design], at least in part." And that "other forms of production tend increasingly to adopt the qualities of design" (Hight, Hardt, 2006:70-73).

At this point, the hegemonic immaterial products should be linked to the definition of artificial commons (languages, images, knowledge, affects, codes, habits and practices) Negri and Hardt provide (2009:250). So far, the relation between design and the common has been attempted, while a key concept on this understanding is the shifting of the attention to the hegemony of immaterial production. But, is design another name for architecture? Are those terms synonyms? Can we interchange architecture with design? It seems that there is not only a matter of terminology but an issue of redefining architectural discipline in the post-fordist era.

As Hight puts it, architecture needs to decide how it should react to the transition from the old society of discipline to the recent condition of control: "a pressing issue therefore becomes whether the architectural discipline responds by fortifying the boundaries of 'architecture' as a discipline or reconfigures its space of knowledge into different practices of 'design', of which the normative objects of architectural practice become only a part" (Hight, Hardt, 2006:70-71). Then, Hardt explains that in the transformation of architecture, "it is not that architectural discipline, which oversees the design of constructed social space, has declined. Rather, it is tending to overflow the walls of the institution of architecture and invest with the logics of design various kinds of social activity" (Hight, Hardt, 2006:71), seeing an opportunity for architecture in the shift from a

---

**“Hardt explains that in the transformation of architecture, ‘it is not that architectural discipline, which oversees the design of constructed social space, has declined. Rather, it is tending to overflow the walls of the institution of architecture and invest with the logics of design various kinds of social activity’”**

---

‘service profession’ focused upon problem solving to become a research-based practice focused upon innovation.

## **DESIGN COMMONS**

### **THE ISSUE OF SCALES**

The basic argument of this paper is that architecture, at the building scale, is inherently dealing with closed and determinate procedures, demanding a specific rigidity, disassociating it from the possibility of its apprehension as commons. Nevertheless, design on two other scales, already bear characteristics associated with the attributes of the commons: on one end, recent developments in industrial design at object scale, are insisting on processes, depending on p2p exchange of information, collaboration, collective and open design; on the other end, designing on an urban scale is non-form oriented, but rather a non-figurative open process of negotiation and struggle. The way those two scales, and their respectful processes of design, seem to, at the present state, carry a commons’ potential, shall be closely examined in the following chapters.

### **INDUSTRIAL DESIGN COMMONS**

New mentalities and practices in industrial design (or the design of things) bring it closer to the notion of the commons. As we have entered a period in which the boundaries between producers and consumers are increasingly being dissolved, “an unprecedented number of people have the skills and the tools to contribute to the creation of value” (Stalder, 2010). Additionally, the edges between work and free time have also blurred; an observation which may also be linked with the biopolitical character of currently hegemonic immaterial production. A makers’ movement (or culture) emerges, rendering each one interested into a maker. The makers are able to freely access information, knowledge, or designs, using and transforming them according to their own needs and subsequently obtain new material objects.

In this framework and in combination with the latest advances in the domains of design software, information and communication technologies, as well as manufacturing hardware, design acquires a commons perspective. Designers can easily communicate, collaborate and share between each other, even when they are located in different geographic places. More mobile business models are developed, within a networked or distributed practice, taking advantage of post-Fordist modes of production and flexible knowledge exchange (Hardt, Hight, 2006). Non-experts can actively enter the design process, through simplifications and user-friendly design software, unmediatedly expressing their needs and desires on the end product. Digital fabrication techniques and the spreading of 3d printing and CNC tools allow experts and non-experts to become productive in material terms. Fab labs, hacker and all types of maker spaces facilitate experimenting, inventing, prototyping and even the production of various everyday objects.

A vision of re-localization of production (on-demand), while design remains open and shareable within global communities of experts and

non-experts, is putting design and its material implementations in the track of the commons. “As the focus of common production is moving from immaterial production to material production, we are allowed to imagine networks of local micro-factories linked to global open design communities” (Bauwens in Papalexopoulos, 2013:2). On the other hand, one should keep in mind that all the described potentials for design can be endangered and be led in quite opposite directions. The so-called makers’ movement, even if can push innovation, externalizes the ‘research and design’ costs of the companies. Subsequently the produced innovations, in order to become viable projects, may end up purchased by big corporations. New business models, characterized by ‘mobility’ and ‘flexibility’, as well as blurring edges of working and non-working hours, amount to increasing precarity for the workers. Personal fabrication and the productive capacity it inflicts, can easily lead to a new type of overconsumption, not only of things but also of machines, should it not acquire a collective perspective. Once again, it is clearly affirmed that all the emancipatory possibilities of a commons-like attempt, can easily be distracted, exploited or diminished, unless the communities formed around any design project are constantly aware of this threat.

### **URBAN DESIGN COMMONS**

Based on the argument of Negri and Hardt that “the metropolis is a factory for the production of the commons” (Negri, Hardt, 2009:250), we proceed to discuss the issue of the urban commons and the potential for the development of urban design commons in the scale of the neighborhood and the city. The metropolis, as a vast common produced by the collective labor, brings forward the issue of the right to the city and Lefebvre’s idea of the urban revolution, as well as Harvey’s concept of cities as foyers of contest and uprisings in the realm of an advanced capitalism exacerbating inequalities worldwide (Harvey in Susser, Tonnelat, 2013:105). There is a constant struggle taking place between the collective laborers and the state as the provider of public goods as well as the market as the appropriator of the commonwealth that is being produced. The role of the urban planner in this context is that of the expert who is either imposing strategies for urban planning and development through government policies, or is hired by private developers to express their corporate identity through lifeless, perfect-looking projects.

The call for a different kind of urban design that would create neighborhoods and cities attractive to their users, which would promote collaboration, participation and openness, is not new. Jane Jacobs proposed the idea of bottom-up community planning, as a place-centered, community based approach to urban planning. “Cities have the capability of providing something for everybody, only because, and only when, they are created by everybody” (Jacobs, 1961:15). Thus, a new design process is needed, one more focused on context and procedure rather than on the final product.

Today, this idea has evolved into different concepts, such as Placemaking and Peer-to-Peer Urbanism (P2P). P2P Urbanism is proposing a system that will re-integrate the needs of human beings, their sensory experience of the world, and their participation into the process of designing spaces. It is based on the idea of sharing knowledge and “co-designing”, meaning that users become part of the design team and guide it through evolutionary adaptations to make a more successful, optimal kind of design. The sharing of knowledge is achieved through networks and connectivity as well as information exchange on different scales (Salingaros, 2005). Placemaking is focusing on urban public spaces, as the only free-access resource of the cities, and proposes a new process and moreover a new philosophy in planning, designing and managing them. It capitalizes the local community’s assets, inspiration, and potential, with the intention of creating public spaces that promote people’s health, happiness, and well being.



---

**“(...) all the emancipatory possibilities of a commons-like attempt, can easily be distracted, exploited or diminished, unless the communities formed around any design project are constantly aware of this threat.”**

---

Finally, what has to be mentioned the potential of new technologies to help communities establish open urban data platforms and engage people in real time spatial intelligence. There are several examples of such applications, which allow users to become members of a digital network and share real time data that can be potentially used to improve their lives. “A necessary condition for an effective development of collective intelligence is open data creation and open collaboration platforms design and implementation. Thus common knowledge assets on urban spatiality are produced” (Papalexopoulos, 2013:5).

#### **COMMON DESIGN ON POLITICAL GROUNDS**

If one understands the processes of design as both answering needs and demands (following interdisciplinary methods) and design techniques (internal to the discipline), then, one could realize the importance of attempting to move beyond a point where “architecture will always be a defective representation of other disciplines”. This suggests “that the same conceptual models can migrate between disciplines, where they are instantiated within the condition and limits inherent in those disciplines” (Reiser + Umemoto, 2006:126). Once again, (interdisciplinary) design is becoming political –a debate and an open confrontation– in dealing with partial objects which “are invariably ‘menacing, explosive, bursting, toxic, or poisonous’, and it is this flexible and plastic quality which makes them inherently political [...] [and their] processes and their meanings [...], as phenomena that move people on, or hold them back, in the courses taken by their lives” (Surin, 2010:203-204). Besides that point, another one should be taken into account: an extension and an inversion of the aphorism of representation – “[o]nly that which can be represented can be constructed” (Guallart, 2003:604)– into inventing methods of incorporating the expression of involved collectivities’ representation into design and realizations, an attribute that cannot be drawn in any kind of format but should be addressed in political-relational terms. In the case of the built environment, then, the complementarity of developments in the small-scale network-organized distributed industry of digital fabrication units –up against the concepts of smart city and self-sufficient city– are showing a renewed awareness around a revisiting of materiality, albeit paving the way for the conception of a commons’ materiality (Papalexopoulos, 2013) in the post-fordist condition.

In parallel, what we propose explicitly refers to pre-capitalistic modes of production but is not confined to them: a notion of “unproductiveness”. Namely, the fact that “every society, or form of social production, has an aspect that appears as the condition, or cause, rather than the effect of the productive relations, the desires and labors of society”, a paradoxical “quasi-cause” (Read, 2008:143), anti-productive in itself, yet determining, directing and appropriating the productive forces. Along that spirit, commons are unproductive themselves and, because of that, we can find a conception of the commons as quasi-cause. But the participation in the group or community that utilizes a common is constituted upon productive intentions; that is, one is taking part in a common if one is using it for productive purposes. So, in analogy, design disciplines as



commons face the challenge to become open and let their outcomes open up as well, allowing for participation into their procedures, balancing on the limits of control over the produced objects, caring for the authenticity of their specific knowledge and intuition that produce new codes, proving their being and relevance while, at the same time, acknowledging this to be one coequal element among a multiplicity of others, all leading to assembling ways of living.

## CONCLUSIONS

“[R]epresentation and knowledge are modeled entirely upon propositions of consciousness which preclude unconscious learning and questioning, subordinating ideas to ‘common sense’ (models of recollection and recognition)” (Young, 2013:5). Similarly, design requires a specific type of knowledge, yet not easily fit into rationalization, as it is intuitive and non-typically instrumental. These characteristics also apply to the figure of the designer and pass on to the object of design.

The possibility of conjunction of architecture and the commons addresses, therefore, a series of problems for the possibility of a non-iconic, non-figurative, informal architecture, meaning an architecture that cannot be limited to a design language, to vivid visualizations and (even) interactive diagrams. Thus, design could be considered as non-design, leading it from its current condition of abstraction created by experts aware of the material and social conditions that led to the production and translation of the design into matter, towards a political system organized around the commons.

This implies moving from one kind of representation to another, from an abstract representation of a symbolic and imaginary milieu –linking the design field to a realized reality– towards the active and affective political representation, in terms of commons as a “micro-social reconstruction” (Kioupkiolis, 2014:171) of users and their own desires, habits and terms. Finally, this also implies a transgression: passing from a world that is “illuminated by a beam of consciousness” to a non-representational one, “luminous in itself” (Marks, 2010:229). All these, occurring within the reconfigured field of design processes, making architecture a polemic debate around common space, equally shared values and accessible resources. **ARQ**

## BIBLIOGRAFÍA / BIBLIOGRAPHY

- ALTHUSSER, Louis. *Philosophy of the Encounter, Later Writings 1978-87*, Francois Matheron, Oliver Corpet (eds.). London: Verso, 2006.
- CAFFENTZIS, George, FEDERICI, Silvia. «Commons against and beyond capitalism». *Community Development Journal*, vol. 49 (January, 2014): 92-105.
- GUALLART, Vicente. «Represent» aphorism. *The Metapolis Dictionary of Advanced Architecture*, Susanna Cros (coord.). Barcelona: Actar, 2003.
- HARDT, Michael, NEGRI, Antonio. *Commonwealth*. Cambridge, Mass.: The Belknap Press of Harvard University Press, 2009.
- HARVEY, David. *Rebel Cities, From the Right to the City to the Urban Revolution*. London, New York: Verso, 2012.
- HIGHT, Christopher, HARDT, Michael. «Designing Commonsplaces: Riffing with Michael Hardt on the Multitude and Collective Intelligence». *Architectural Design - Collective Intelligence in Design*, Hight C., Perry C. (eds), vol. 76, no 5 (2006): 70-73.
- JACOBS, Jane. *The Death and Life of Great American Cities*. New York: Random House, 1961.
- KIOUPKIOULIS, Alexandros. *For the Commons of Freedom* [original in Greek]. Athens: Exarheia, 2014.
- KLEINER, Dmytri. «Copyfarleft and Copyjustright», 2007, [available online <<http://www.metamute.org/editorial/articles/copyfarleft-and-copyjustright>>, last accessed 30/07/2015]
- MARKS, John. «Representation» entry. *The Deleuze Dictionary*, Adrian Parr (ed.). Edinburgh: Edinburgh University Press, 2005.
- MEHAFFY, Michael, SALINGAROS, Nikos. «Architectural Myopia: Designing for Industry, Not People», 2011, [available online <<http://www.shareable.net/blog/architectural-myopia-designing-for-industry-not-people>>, last accessed 30/07/2015]
- PAPALEXOPOULOS, Dimitris. «Urban Hybrid Networks, the Commons Dimension». *Hybrid City 2013 Conference Proceedings*, Athens, 2013, [available online <[http://www.ntua.gr/archtech/forum/Hybrid\\_City\\_papalexopoulos%20final%20002.pdf](http://www.ntua.gr/archtech/forum/Hybrid_City_papalexopoulos%20final%20002.pdf)>, last accessed 30/07/2015].
- READ, Jason. «the Age of Cynicism: Deleuze and Guattari on the Production of Subjectivity in Capitalism». *Deleuze Connections: Deleuze and Politics*, Buchanan I., Thoburn N. (eds.). Edinburgh: Edinburgh University Press, 2006.
- REISER + UMEMOTO. *Atlas of Novel Tectonics*. New York: Princeton Architectural Press, 2006.
- SALINGAROS, Nikos. *Principles of Urban Structure*. Amsterdam: Techne Press, 2005.
- STALDER, Felix. «Digital Commons». *The Human Economy: A World Citizen's Guide*, Keith Hart, Jean-Louis Laville, Antonio David Cattani (eds). Cambridge, UK: Polity Press, 2010.
- SURIN, Kenneth. «Partial Objects» entry. *The Deleuze Dictionary*, Adrian Parr (ed.). Edinburgh: Edinburgh University Press, 2005.
- SUSSER, Ida, TONNELAT Stephane. «Transformative cities: the three urban commons», Focaal in *Journal of Global and Historical Anthropology* 66 (2013):105-121.
- TERZAKIS, Fotis. *Anti-Epistemologically* [original in Greek]. Athens: Panoptikon, 2012.
- YOUNG, Eugene B. «Introduction». *The Deleuze and Guattari Dictionary*, Eugene B. Young (ed.). New York: Bloomsbury, 2013.
- WATSON, Janell. «Cartography» entry. *The Deleuze and Guattari Dictionary*, Eugene B. Young (ed.). New York: Bloomsbury, 2013.

## ELENA ANTONOPOULOU

<elanto@central.ntua.gr>

Architect Engineer, National Technical University of Athens –NTUA–, Greece (2008). Master of Science in Design-Space-Culture, NTUA, Greece (2010). Her research focuses on the notion of the commons and the analogy between the hegemonic mode of immaterial production and the production of space. Her work has been presented in various exhibitions such as Adhocracy Athens (2015), or the International Architecture Biennale in Rotterdam (2014), among others. She is an active member of City Index Lab, which attempts to combine research activity with experimental praxis, and currently PhD Candidate at the National Technical University of Athens (NTUA) in Greece.

## CHRISTOS CHONDROS

<chchon@central.ntua.gr>

Architect Engineer, National Technical University of Athens –NTUA–, Greece (2008). MSc in Design-Space-Culture NTUA, Greece (2010), and MSc in Adaptive Architecture and Computation, University College of London (2012). His current research interest focuses on the notion of subjectivity in contemporary design practices and the ongoing transformations of design principles and procedures by the prevailing use of technological design tools and platforms. He is PhD Candidate, National Technical University Athens (NTUA) in Greece.

## MARIA KOUTSARI

<koutsari@central.ntua.gr>

Architect Engineer, Aristotle University of Thessaloniki, Greece (2007). Master in Advanced Architecture, Institute of Advanced Architecture of Catalunya, Universidad Politècnica de Catalunya, Spain (2009). Master of Science in Urban and Regional Planning, NTUA, Greece (2012). Her research interests include urban creativity and innovation, as well as urban collective intelligence and new forms of production. She is co-founder of the NGO Creativity Platform, an interdisciplinary collective to exchange ideas, actions, research and appliances related to the creative economy. She is PhD Candidate, National Technical University Athens (NTUA) in Greece.