LEARNING ABOUT MAKERS IN CHINA 中国创客调查实录 [06]

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FIELD RESEARCH.
Drawings by Anaïs Bloch, Shenzhen, 2018

LEARNING ABOUT MAKERS IN CHINA

中国创客调查实录 | Monique Bolli, Clément Renaud, Anaïs Bloch & Emanuele Protti

This chapter will introduce an experiment in fieldwork methods conducted to investigate China's fast–transforming spaces for "making" and tinkering with digital manufacturing. Through multidisciplinary workshops organized in Renens in May 2017 and in Shanghai and Shenzhen in March 2018, this experimental approach aimed to overcome issues faced by traditional participative ethno–graphic methods—to deconstruct and reconstruct the research object—while studying phenomena where knowledge and practices evolve locally, but also online, across cities and international networks.

From Do–It–Yourself (DIY) communities to industrial research and innovation, a redefinition of the processes of making has emerged globally under the name of the *maker movement.* Making, traditionally considered an essential means of cultural transmission and learning (Ingold 2013), has been separated since the 19th century from other cultural activities, in order to follow the structural division of industrial production. Questioning this separation, *makers* want to reconsider the act of making as an instrument for knowledge transmission and community engagement.

Around the world, various initiatives have been created to support this trend, gathering groups of stakeholders from local communities, governmental offices, universities, institutions, businesses, etc. Locally, the makers tend to meet in specific places often known under terms such as *fablabs, maker–spaces, hacker–spaces,* etc. While these words have already gained momen–tum (see section 2), their existence is hardly homogeneous, as their role and characteristics echo the sociocultural, political and technological settings in which they take place.

In Chinese cities, the industrial transition from low–cost to higher–margin production of services and technologies has led to major urban transforma–tions. Here, the spaces of the makers offer an interesting sneak peek into these changes. Iconic places such as xinchejian in Shanghai or x.factory in Shenzhen have become an integral part of those cities' industrial strategy, with visits and sometimes partnerships with top officials and leading industrial actors across China and abroad.

The entanglement of discourse and projections from the different stakeholders turns the study of this phenomena into a complex problem—increased in China by the speed of urban change in recent years. In this chapter, the authors explicate

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their methodological attempt to consider not only the local whereabouts of specific places, but also their entanglements in larger municipal, national and global networks. The text begins by giving some context about makers in China before introducing existing theories and approaches of studying changing spaces. It continues with a detailed description of the experiment which included participatory public events, on–site multidisciplinary fieldwork and the making of a small booklet during a ten–day workshop in China. The chapter ends with a discussion of the main takeaways, learnings and shortcomings of our approach, as well as recommendations.

MAKERS, MAKERSPACES AND CHINA

In recent years, the cost of industry–grade tools (numerical control machining, additive manufacturing, electronic sensors or microcontrollers, etc.) has been decreasing rapidly, facilitating the access of small organizations and individuals to these resources. At the same time, the surge in online activities worldwide has made vast arrays of learning materials available for tinkering with technologies, with the central example of open–source software and electronics. This new distribution of information and tools has had major strategic implications for companies and entire industries whose development has traditionally relied on their edge in technological innovation.

Inventors, entrepreneurs, students, scholars, journalists, policy–makers… multiple groups of people have tried to define, discuss, claim and describe this grow–ing trend. In 2011, Anderson—a famous Californian editorialist—popularized the term "maker movement", describing how "makers" were taking advantage of these new opportunities to lead a new "industrial revolution" that would radically transform the practices of manufacturing, business and education. At its core, making was defined by Anderson as a hands–on approach in defining new eco–nomic pathways (Anderson 2012). While this definition quickly gained momentum with policy–makers and executives, epistemic communities also formed around the newly available materials and devices to pursue their interest for design and experimentations. For these communities, making was framed as a form of empowerment and resistance to consumption and mass production, where situated creativity would prevail over economic incentives (Dougherty 2016).

All over the world, vastly different practices and communities have organized—or been grouped—under the unified umbrella of a maker movement or maker culture. Diverse appellations (hackerspaces, fablabs, makerspaces, etc.) have emerged to qualify different organizational and business models, as well as goals and con–nections to larger (global) networks (Capdevila 2017). For the purposes of this study we will rely on the general term *makerspaces,* defined as shared spaces or workshops that loosely associate themselves with the maker movement and pro–vide tools, tables and chairs for regular members' meetings and/or public events.

In China, early makers positioned themselves as part of this seemingly global movement. A loose translation of the term maker, the Chinese term *chuangke* (创客), was created by China's open–source hardware advocates to position their

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work within the global and national dynamic of innovation, entrepreneurship and creativity discourse (Lindtner 2015). This fairly young term was later endorsed by Chinese Prime Minister Li Keqiang in 2015 as part of the ten–year plan on industrial and economic reforms *Made in China 2025.* Once indicating a local community member, *chuangke* came to describe the figure of a young, active Chinese tech entrepreneur.

Following this announcement, makers in China were propelled to a new position of innovation leadership with the mission to reboost and diversify the national economy, both locally and abroad. Continuing on from previous plans to foster innovation and creativity through urban development (Keane 2006), the government targeted innovations coming from communities and individuals to transform China's image from "the world's factory" into an "innovation–oriented nation" (Lindtner 2017). As Wang (2016) writes, the Chinese makers inherit a double identity—or a single identity with a double activity: the entrepreneur and the activist.

In 2010–2011, makerspaces started to appear in China (Bolli 2020; Renaud 2018). Like in many other cities, these spaces were originally created by hobbyists and professionals willing to share space, tools and ideas to grow their projects. Members would usually pay a monthly or yearly fee for access and volunteer to help run the space. Regular public workshops were organized by members to share their skills, create an income and give visibility to the space.

In 2015, a large public investment policy called *Mass Innovation, Mass Entrepreneurship (众创 zhongchuang)* transformed the landscape of making in China (Wen 2017). Benefitting from subsidies, new spaces appeared (and sometimes disappeared) in cities all over China. Small organizations and spaces that existed prior to public intervention often faced unplanned and even diffi– cult situations due to the rise of public interest and attention. Spaces opened and closed, people joined and left, organizations changed or disappeared. City governments in Shenzhen or Shanghai supported the emergence of Chinese public figures and companies as representatives of the global maker movement.

Beyond the maker–enthusiast, makers are now at the forefront of China's industrial strategy to position itself as a strategic hub and exporter of innovation in manufacturing, with support from large international industrial firms such as Apple or Tesla and programs like the Belt and Road Initiative. Therefore, maker– spaces are interesting places to observe and document the encounter of China's top–down policies with a vast array of local and global stakeholders.

HOW TO STUDY CHANGES IN COMMUNITY SPACES?
COMPLEX FIELDWORK AND MULTIDISCIPLINARITY
There are many challenges to such a study. First, China's urban and industrial development comes in all kinds of scales and varieties. The diversity of the country and its size makes any generalization pointless. Second, the pace of transformation and evolution one can witness on the ground makes traditional

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inquiries very difficult. Third, the "maker movement" stands at the crossroads of major economic and industrial interests, and therefore is subject to lots of attention. The multiple discourses, statements and actions surrounding it are motivated by incentives and intentions, which are not always easy to discriminate.

Still, studying makerspaces is a unique opportunity to observe China's urban and industrial transformation through actual spaces created by communities—as well as interactions between people, space and state in China. As small organizations, makerspaces face significant sustainability challenges. Their existence relies on the support of members, public and private stakeholders, as well as their place in a larger socioeconomic ecosystem (Kingsley & Saunders 2016). The entanglement of the lifepaths of these organizations and their members makes tracking changes challenging, especially in short windows of time when maintaining contextualization and cultural sensitivities is already difficult. Traditional methods of ethnographic inquiry such as on–site participatory observation show their limits in the face of these multifaceted objects that exist altogether in local, national and international discourses, places and networks.

There is therefore a need to develop research methods that can apprehend fast–changing, multilayered and multisited fields of research (Marcus 2016). Researchers have been keen to rely on the participation of local stakeholders to help them grasp reality. Still, Cornwall and Jewkes (1995), who discuss the notion in the context of health research, remind us that: "'Participation' is rapidly becoming a catch–all concept, even a cliché. 'Participatory' research methods can be used not only to enable local people to seek their own solutions according to their priorities, but also to secure funding, to co–opt local people into the agendas of others or to justify short–cut research within a top–down process" (Cornwall & Jewkes 1995). In the context of makerspaces in China, we relied on our familiarity with many stakeholders (evolving from long–term involvement with the topic and local communities) to allow them to voice their ideas at several levels of the process and acknowledge their influence in the construction of the research narrative (Clark et al. 2009).

The study of complex social realities can also be improved by having experts with different backgrounds, knowledge and research specialties (Ramadier 2004). The involvement of experts from different fields, besides comprehending the different disciplinary points of view on the subject enquired, helps to disassemble and reassemble an acquired knowledge. The capacity to look at things from a different perspective helps to compare, contrast, differentiate, clarify and synthesize the complex reality analyzed. As Hine (2007) explains, interdisciplinary methods can also be problematic, by making the formulation, validation and communication of the research more difficult. Therefore, the team should be careful to preserve the disciplinary thinking of each member (Ramadier 2004).