Chapter 1

Studio studies: notes for a research program
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Introduction
This edited collection approaches the 'studio' as a key site for the production of cultural artefacts, and in doing so it aims to open up a novel and underdeveloped topic for social and cultural research. As the various chapters of this book will demonstrate, studios play an essential role in the bringing into being of all manner of aesthetic, affective and reflexive objects including, but not limited to, artworks, brands, buildings, crafted artefacts, concepts, designed products and services, live action and animated films, information technologies, music, software and video games. Even government policy is being conceived and incubated in 'social' and 'service' design studios, continuing the intervention of design into democratic procedures (e.g. Bisgaard et al. 2013). The list is seemingly endless. Studios, it would seem, have become the principle resource for what are, after Theodor Adorno and Max Horkheimer (1997 [1944]), commonly known as 'culture industries' where so called 'creativity' is heralded as the driving factor in the revitalization of contemporary capitalist economies. The premise of this collection, however, is that despite the key role played by the studio in cultural production, its importance has and remains largely overlooked by anthropologists, sociologists, cultural theorists, historians, planners and urbanists, policy makers and so forth. In short, the studio remains a peculiar and remarkable lacuna in our understanding of how cultural artefacts are brought into the world and how creativity operates as a situated practice.

So where to begin and how to proceed? If social and cultural researchers want to study the studio, where might they start? What traditions and disciplines might provide the techniques, analytic tools and concepts for exploring, examining and analysing what a studio is, what happens in a studio, what is made in a studio and what other sites, processes and actors the studio is connected to? For readers familiar with the programme of ethnomethodology as well as Science and Technology Studies (STS) one particular precedent acts as a cue to approaching a particular site where knowledge, material entities and practices come together in an organised, routinized and managed way in order produce new phenomena and new knowledge: namely, the research tradition known as 'laboratory studies' (e.g. Knorr Cetina 1995). Such studies provide inspiration and instruction in how to address situated and coordinated work environments that are organised and maintained in order to support creative practices, invention and the making of cultural artefacts. Rather than understanding studio processes as the practical expression of an individual's creativity, the chapters brought together in this collection variously view creation as a situated process wherein new cultural forms are made, without assuming an a priori distinction between supposedly creative acts and routine activity, as well as creative actors as opposed to assistants, equipment and tools. As we detail in this introduction, there is no easy access to the studio since the obstacles come in both empirical and theoretical form. That is to say, studios are not only challenging sites to gain access to, but 'access' also involves circumventing decades of sociological and anthropological assumptions about creativity in order to delineate an alternative approach to making as a situated and distributed process. Once this is achieved, however, we can begin to imagine the studio as the laboratory's cultural analogous: a space that harbours and

manifests the conditions in which prototypes, models, designs, media and visualisations are conceived, planned, tested, and synthesized into coherent, bounded and affective forms. But, as we will suggest, this is not enough. Paying attention to the specific epistemic-ontological problems configuring studio work require us to start exploring alternative conceptual repertoires that take us beyond analogies with scientific experimentation and into questions of invention, intimacy and attachment. This is a task that this introduction can only begin to suggest and that it is further explored in the different chapters of the book.

Creative work: towards a situated approach
Since the 1990s, creativity has emerged as a central category in contemporary public discourses about economic prosperity as well as social and individual wellbeing (Osborne 2003, Nelson 2010), as shown by its proliferation in notions such as 'creative industries' (DCMS 1998, Caves 2000, Howkins 2001), 'creative class' (Florida 2002), 'creative cities' (Landry and Bianchini 1995, Hall 2000) and 'creative economy' (UNCTAD 2008). It has also become an obligatory point of passage for the cultural production of the new (e.g. Osborn, 1957) – a necessary ingredient for stimulating and provoking novelty. For governments, the notion of creative industries has become a key instrument in policy frameworks across Europe, North America and around the world in attempts to harness cultural production for the restructuring of urban and national economies (Banks and O'Connor 2009). A prime example of this is the first 'World Report on the Creative Economy' published by the United Nations, which entrust the creative industries with the capacity to forge "a new development paradigm" (UNCTAD 2008: 3). Almost all policy frameworks now construe the creative economy by means of industrial classification systems, which typically include categories such as the visual and performing arts and crafts; service-oriented sectors, e.g. architecture and advertising; and technology-intensive sectors, e.g. film, TV, radio, social media and video-game industries. Underlying such classifications, are vague definitions pointing to creativity as a human faculty, to expressive or experiential aspects of creative products characterised as 'values', or to the generation of intellectual property. Despite discussion about the distinctiveness of these industries (Banks and O'Connor 2009, Potts et al. 2008), the sense in which such industries are 'creative' remains largely ignored or undeveloped.

Clearly then, the very notion 'creativity' has become a black-box – a process the contents of which remain unknown and unproblematic (Callon, 1986; Latour, 1988) – hindering empirical enquiries into concrete creative practices and sites in the various 'sectors' of cultural production. Typically, creativity is located and acted upon in two key ways. On the one hand, and by drawing on psychological definitions that point to original, divergent thought processes leading to new ideas (Csikzentmihalyi 1996, Boden 1994), creativity is located in an individual's mind as a cognitive capacity acquired prior to and the cause of a person's creative processes or 'behaviour'. This understanding of creativity, for instance, leads urban policy advisors, such as Richard Florida (2005), to recommend the reframing of urban policy strategies in order to attract members of the creative class. Notably, these formulaic approaches have been criticized for their misleading association of creativity with homogeneous occupational groups with high educational achievement (Markusen 2006) and the contradictory use of a microeconomic category ('creativity') to justify a macroeconomic construction (an industrial sector) inexistent from a microeconomic perspective (Potts et al. 2008). On the other hand, scholarly research in sociology and

geography has focused mainly on the contexts and conditions that enable creativity to unfold and flourish and how creative industries can be nurtured. Here, studies place emphasis on the role played by creative milieus (Meusburger 2009, Hall 2000), creative neighbourhoods and urban spaces (Grabher 2001, Lloyd 2004), creative industry clusters (van Heur 2009, Sunley et al. 2008), and on governance tools for the creative industries (Pratt 2004). Furthermore, scholars in the social sciences have also focussed on the impact of the creative economy on the individual, both in terms of the constitution of new 'creative' subject positions (Reckwitz 2012) and the precarization of creative workers (McRobbie 2002). In examining the political economy of creative labour, critical scholars (Hesmondhalgh and Baker 2010) have pointed to the market and institutional arrangements that allow firms in the media and cultural sector to extract the surplus value of creative work, such as exploiting unpaid labour time or deploying aggressive copyright regimes (Cohen 2012). As such, the social and cultural sciences overlook the very settings where the products of the creative industries are brought into being by focussing on the urban environs, built environment and inter-institutional conditions in which creativity is achieved.

This, then, is precisely the challenge presented to the contributors of this book: how can socio-cultural research overcome individualistic and environmental explanations of 'creativity' and how might the situated and concrete dynamic of creative production be grasped? Evidently, this involves jettisoning the endemic correlation between creativity and innovation. As mentioned before, creativity is commonly understood as a thought process leading to a novel idea (Boden 1994). Apart from the problematic reduction to cognitive activity, the reference to novelty only allows for *ex-post* accounts of creativity, since whether a (thought) process is deemed creative depends on the future valuation of its upshot as being new; something that is not just uncertain, but also varying in space and reversible in time, as innovation studies have clearly shown (e.g. Akrich et al. 2002a, Akrich et al. 2002b). An equally important problem with the notion of innovation is the way in which it works to amalgamate creativity and invention to the logics, rationalities and temporalities of market economics (Godin, 2006), thus historically naturalising the connection between them.

With *Studio Studies*, our purpose, then, is to change the very register through which creativity is understood, by bringing into focus creation processes, understood both as processes of inventing and making cultural artefacts. In our view, creation processes do not deal primarily with the problem of *interessement* and enrolment of actors as new objects circulate through (and in doing so fashion) space and time, that is, the problem of innovation. The fact that 'nobody-knows' in advance whether an invention will become an innovation requires us to approach creation processes as more than just a prelude to innovation, that is, as processes imbued and shaped by other practical and, indeed, more pressing problems, such as how to produce knowledge about not yet existing things, how to engage in form-giving processes, how to stabilise new forms and artefacts, or how to model attachments to future users and consumers. By focusing on fundamental problems of creation processes, *Studio Studies* sets out a redescription of the creative work – an overhaul of how we understand and appreciate the emergence of new cultural artefacts.

It is important to note that creation has been classically understood as a process of imposing a form (*morphe*) onto matter (*hyle*) (cf. Ingold 2010); an understanding intimately related to that of creativity as a thought process leading to the generation of

new immaterial forms. As such, the notion of creation bears similarities to the Kantian notion of cognition, which also posits an isolated 'mind-in-the-vat' grasping the world and producing knowledge in terms of its own synthetic categories (Latour 1999). In both cases, there is a passive material world open to mental designs and categories and an individualized understanding of the 'creator' or the 'cognizer'. Since sociologists of scientific knowledge discovered the laboratory as a site for studying 'science-in-the-making' (Latour and Woolgar 1986, Knorr-Cetina 1981), there has been a major move away from such a conception of cognition and towards a notion of 'distributed cognition' (Gieri and Moffat 2003, Hutchins 1995). This shift has led researchers to study how the production, manipulation and circulation of material inscriptions through different media, technologies and individuals makes possible cognitive processes that no one single person can perform. Moreover, in laboratory studies equal attention is paid to all the activities undertaken by scientists and lab technicians, whether routine informal talk, strategic career decisions, or fact-making efforts. All such practices are considered part of knowledge making processes, debunking the myth of scientific method and rationality or at least furnishing it with a stronger objectivity.

The prospect of *Studio Studies* is predicated on a similar move made by introducing the notion of 'distributed creation' in its widest sense. Such a move has, in our view, two key interrelated advantages. First, distributed creation allows one to account for the active and enabling role played by the materials and technologies participating in creation processes, undermining the distinction between form and matter that informs more typical versions creativity. Or, to paraphrase Latour (1988b: 258), we have to be undecided as to what actors to follow and what creation is made of. Second, this mode of empirical accounting involves closely describing all the activities performed by all actors involved in creation processes and not assuming an a priori distinction between creative acts and routine activity. Assuming that creation occurs in all manner of human and non-human configurations and thus, much like ANT's methodological dictum to follow the actors, the study of creativity requires an appreciation and sensitivity to non-human processes and entities. Thus, the notion of distributed creation emphasizes creativity as a sociomaterial and collective process, in which no single actor holds all the cards (eg. Farías 2015a); a view that is somewhat sympathetic to and commensurate with actor-network theory and its developments (Law and Hassard 1999).

Notably, taking distributed creation to its extreme brings us 'back' to Whitehead's (1927 [1926]) original coining of creativity (Ford 1986, Meyer 2005, Halewood 2005: 35) as a metaphysical concept to describe processes by which entities and phenomena, human and non-human alike, come into being and change. The implication of this view is that creativity is a basic feature of existence, a generic, mundane and fundamental feature of all ontological processes, not just of persons endowed with special cognitive abilities. Thus understood, creativity is linked to the notion of 'event' (see Wilkie 2013: and Wilkie and Michael this volume) as a process of becoming. The principle of process is foundational for the emergence of all new entities and phenomena: '*how* an actual entity *becomes* constitutes *what* that actual entity is.… Its 'being' is constituted by its 'becoming' (1978: 23 Emphasis in original). Going back to Whitehead requires the ethnographer of creativity to attend to actual, specific and situated becoming of studio phenomena.[1] This approach also opens a view of the studio as a site productive of what following Isabelle Stengers

(2005) could be called 'cosmopolitical' events - events at which the possibility of new social and cultural arrangements and the kinds of common worlds that studios are part of speculating on and constructing are at stake.

One might reasonably assume that this has long been a major research focus in studies of cultural production. Yet, ever since Horkheimer and Adorno (1991, 1979) described the subordination of culture to an industrial logic based on rational standardization, commodification and capital accumulation, the study of cultural production has focused on its determination by 'broader' social, industrial and institutional contexts. Here, the prominence of Richard Petersons, Pierre Bourdieu and Howard Becker is unmistakable. Petersons' (2004, 1976) influential 'production of culture' perspective, drawing on Merton's sociology of science, focuses on the systemic and institutional configurations of cultural production by looking at six essential features: technology, law and regulations, the industry structure, the organizational structure of the dominating firms, occupational careers, and market structure. Bourdieu's sociology of the 'field of cultural production' addresses how social spaces condition cultural production through competitive yet complimentary relationships among individual producers, artistic genres, cultural intermediaries and cultural institutions. Thereby he charges (1980) against the 'ideology of creation' and the individual artist as an 'apparent producer'. Bourdieu also refuses to address cultural objects, which he views as mere effects of the producers' "agonistics of position-taking", as Georgina Born (2010: : 179) notes. Becker's work on art as collective activity (1974) and art worlds (1984) is perhaps the most relevant and promising for our purposes, as it focuses on the interactive and cooperative practices and networks of people who directly or indirectly participate in the production of artworks. However, and somewhat disappointingly, instead of looking at how art world actors actually engage in creative activity in the actual sites of cultural production, Becker concentrates on shared knowledge and conventions, while attempting the classification of different social types, such as 'integrated professionals', 'mavericks', 'naïve artists' or 'folk artists' for producers (1976), and 'well-socialized people', 'experienced audience members' or 'art students' for audiences (1984).

Antoine Hennion presents a sobering and substantial charge against such perspectives in that they have "only attempted the study of milieu, professions, institutions, markets, policies – that is, everything 'around' the object itself." (1989: : 401) Since this critique was expressed, various 'turns' to the object have occurred in studies of cultural production and the sociology of art. Hennion himself (1993) has pioneered the study of the material 'mediators' of music, such as instruments, bodies, notation systems, sheet music, recording technologies, reproduction devices, music halls etc., arguing that these "are neither mere carriers of the work, nor substitutes which dissolve its reality; they are the art itself" (2003: 84). Alfred Gell (1998) describes cultural objects (or 'indexes') as condensing and mediating relations between persons and things, and even changing in their physical form as they mediate among different entities. More recently, Scott Lash and Celia Lury (2007) propose following cultural products, this time through global circuits, describing how media, especially films, become thing-like, and how things, including shoes or watches, are mediatized. Freed from the identities imposed by producers and the logic of the commodity, these cultural media-things operate as brand environments open to different experiences, interpretations and doings.

Contemporary studies of cultural and creative production, as exemplified by the above, have thus moved from the analysis of contexts and conditions of cultural production to the cultural artefacts that come into being in such processes. However, while such perspectives make it necessary to turn our gaze to the actual sites in which practitioners engage in conceiving, modelling, testing and finishing actual cultural artefacts (Dubuisson and Hennion 1995, Hennion et al. 1993), the studio, although a preoccupation in the visual arts (e.g. Jacob and Grabner 2010), has not been an object of systematic and intensive analysis for the social sciences (e.g. Zembylas 2014). The most notable exception is possibly Born's (1995) ethnography of IRCAM (Institut de Recherche et de Coordination Acoustique/Musique), which brings together a institutional analysis focused on status relationships, subject positions and power conflicts with a sociotechnical analysis of the practices and mediations of experimental music creation.

Taking this into account, this edited collection brings into sharp focus the specificity of the studio as an empirical site for the study of the 'distributed' creation, the making and inventing of cultural artefacts. It is important, though, to emphasize that our understanding of the studio does not prescribe a homogeneous space that can be characterised by physical or organizational features, such as size, location, labour division, conflicts over status or institutional discourses. Studios have assumed very different forms, not just throughout the history of art (Hughes 1990, Alpers 1998, Jones 1996) with some closer to factories and ateliers, others to offices and shops, as well as self-declared post-studios, but also in fields beyond the visual arts. As the articles in this volume show, the studio is a key configuration in advertising, various genres of design (architectural, interactive, product and service), film and television production, experimental music, video-games development, and even post-studio visual arts.

In all cases though, the studio designates a more or less contained and bounded space shaped by and shaping distributed creation processes. Furthermore, it is possible to describe our object of enquiry as 'studio life' (cf. Latour and Woolgar 1979). This reference to life obviously points to the more routinized aspects of workplace activities occasioned in these sites, to the studio as a humdrum and habitual workplace, rather than the domain of individual genius. But the notion of studio life also has a more specific sense, a more specific purpose. It designates a vitality: a generative capacity that inheres in the human-material arrangements and circulations taking place in studios and converging in the creation of new cultural artefacts. Approaching studio life as one major aspect of processes of distributed creation, we advocate paying attention to the variegated events in which the potentialities of materials, artefacts, bodies, images, and concepts unfold empirically, taking into consideration the properties and constraints of phenomena and entities that enter into the studio. Turning to studio life therefore involves rejecting approaches based on an external causation of creative processes and closely studying the situations in and through which distributed creation processes take place.

Studio life: invention, intimacy and attachment
As mentioned previously, this volume evokes a key research tradition in STS that we draw inspiration from, namely the field of laboratory studies that emerged in the late 1970s and shaped by a commitment to the participant observation of scientific

practices as an approach for understanding the production and contents of scientific knowledge and objectivity.[2] The key lesson we draw from this is that the emphasis on the creation of cultural artefacts cannot be separated from the settings in which such entities are brought into existence. Clearly then, this firmly places studio studies in a particular lineage marked by Garfinkel's (1967) influential programme of ethnomethodology where the minute observation of situated accomplishments of 'members' in organised everyday settings discloses the reflexive accountability of routine practical activity. It also betrays our interest in bringing the insights and methods associated with ANT to bear on the studio as a centre for the production of cultural artefacts. As such, it is necessary to describe in more detail how laboratory studies can inform the study of studios and to what extent the latter entails new problematizations and novel conceptual repertoires.

We cannot fail to notice a marked tendency to imagine and shape studios as laboratories in different fields of creative practice. Michael Century (1999) has described the 'studio laboratory' as a post-Manhattan project trope characterising art-technology innovation engagements. In the field of design, for example, 'living labs' (Björgvinsson et al. 2010) and 'culture labs' (see Born and Wilkie in this volume) are imagined as settings for the design and innovation of computational technologies, whilst the label 'design lab' is indicative of an epistemic flinch in which the term 'lab' or 'laboratory' affords legitimacy and authority to institutional milieus for knowledge production and innovation practices involving design. Also in the contemporary visual arts, artists are increasingly conceiving and configuring their studios as experimental systems akin to laboratories (see Farías in this volume). In the context of new institutional arrangements redefining art and design as practice-based research, the analogy with the laboratory allows the studio to be viewed as a key site of knowledge production. The key, however, is less a discursive leveraging of experiences and knowledges assembled in studio products than the qualification of studio processes as experimental, something noted by several scholars. In an early contribution to the study of studios, Hennion et al. (1993) describe advertising agencies as 'laboratories of desire', i.e. sites in which experimental answers are sought in response to one of the most fundamental questions in social sciences and humanities alike such as what makes individuals desire certain objects. In their view, advertising experiments with human desires in a mode resembling "the more chancy tinkering of laboratories [where t]he subject-object model […] becomes a laboured product that on the laboratory bench reacts to the way in which advertising deals with it" (1993: 172). Similarly, the art historian Svetlana Alpers relates how laboratories and studios are the twin descendants of the rise of an experimentalist spirit in the 17th century. From this perspective, the historical departure of the artist studio from the artisan's workshop did not just lie in the search for originality understood as *poiesis* (Sennett 2008), but above all in the experimentation with the socio-environmental conditions affecting human perception and visual cultures (see Farías in this volume).

Taken in a stricter sense, however, the notion of experiment can only describe some highly specific studio processes and is far from offering a more general heuristics. Indeed, as Hans-Jörg Rheinberger (1997) has shown, experimental systems involve entanglements of epistemic things – the objects about which knowledge is to be produced – and the technical objects, apparatuses and systems shaping the experimental practice. Aimed at producing reproducible discoveries, experimental systems require a high stabilization of the socio-technical assemblages of

experimental work and the epistemic things at stake. Even if the latter are by definition unknown, they need to be clearly identified, at least in the form of the research question or hypothesis, as bounded objects of inquiry. In Rheinberger's precise account, experimental systems "allow, to put it paradoxically, to create new knowledge effects in a regulated manner and yet one that transcends our capacities of anticipation" (2004: 8). Whereas an analogy could be made here to conceptualize some techniques and methods deployed in studios to foster creativity, such as brainstorming (Osborn 1957, Wilkie and Michael Forthcoming), studios mostly feature less formalized modes of inquiry. It could be argued that whereas experimental systems are designed to produce new answers to well-constrained problems, studio processes consists to a large extent in actually finding and defining a problem. In different fields of cultural production, architects, artists, and advertising professionals consistently describe their explorations as open inquiries, in which neither the work-to-be-made nor the technical apparatuses of inquiry nor the actual problem are well defined or at all stabilized. Arguably, then, a typical studio situation is one in which practitioners do not quite know what they are searching for.

Moreover, in contrast to the lab, where the obligation is to produce new knowledge, newness does not offer a sufficient criterion for the shaping of studio products. A short visit to any studio or, even better, to their storage rooms, where piles of sketches, models, prototypes and other half-baked ideas and propositions accumulate up to the ceiling, is enough to discover that the problem is not to come up with new variations, alternatives and possibilities. The fundamental studio challenge is rather the production of necessity (Farías 2013), that is, establishing necessary conditions and constraints to close down the infinite span of possibilities, discard alternatives and make decisions. Producing necessity is thus crucial for bringing cultural artefacts into being, making them consistent, coherent and stable, that is, to put it with Latour (2013), for their instauration as beings. The studio problem is thus a fundamentally ontological one, very well grasped by notions of expressing (Dewey 2005 [1934]), making (Ingold 2013) and prototyping (Wilkie 2013). This, however, should be carefully understood, as it does not mean that scientific experimentation would be shaped by epistemic concerns only. At both sites, labs and studios, we encounter practices of knowing and constructing new objects, not-yet existing objects, that is, epistemic-ontological achievements. The difference we are pointing to is that to the extent that such processes are differently framed as discovery or creation, they entail different styles, methods and modes of inquiry.

Hence, and as Lucy Suchman has pointed out, if the major challenge for laboratory studies was to demonstrate that scientific facts are made, not discovered, the challenge for what we call studio studies would lie in showing "the historical anteriority of even the most innovative objects" (2012: 55). The notion of invention in the Tardean sense is helpful here, as it imagines invention, not as a *poiesis ex-nihilo*, but as a potential contained in every act of imitation (Barry and Thrift 2007). Taking this as a cue, we can start to reimagine the studio as a site, where invention is reverse engineered, so to speak, as it necessitates connecting new cultural artefacts to existing settings and arrangements. Taking into account that, as we suggested above, in the studio every sketch, every model, every material new arrangement, as well as conversations potentially implies a new ontological proposition. The key challenge for studio practitioners lies in discovering and reflecting on the capacity of such

propositions to become part of existing histories of human-nonhuman attachments and reconfigurations.

Paying attention to those existing histories enables us to address another important issue related to the relationship between the studio and its outside; between the sites where a cultural artefact is assembled and where it encounters and possibly attaches itself to its users, consumers or publics. Here too we can see how the studio takes a fundamentally different shape to that of the lab. Indeed, one of the most powerful insights of laboratory studies conducted in the tradition of ANT was that the laboratory has no outside. In other words, scientific facts produced in a laboratory are not simply validated by and in other laboratories, but rather the very condition of their success is the laboratorization of the world, or at least of those milieu in which facts enact their power. The prime example of this process is what Latour (1988a) dubs the Pasteurization of France - the fact that Pasteur's laboratory construction of microbes only succeeded in ensuring the quality of milk due to the fact that French dairies had to be configured to reliably reproduce the conditions under which microbes come into existence. As such, milk could only be pasteurized if dairies became laboratories. Thereby Pasteur's laboratory became also an 'obligatory point of passage' (Callon 1986) for those wanting to understand epizootics and epidemics. The lab is thus one of the fundamental truth spots of science (Gieryn 2002): an enhanced site within which facts (and science) hold their shape, and thus a key site grounding the power of science to shape the social.

Arguably, and especially in the context of this volume, studios could not be more different. Studios are, by very definition, *not* the place in which inventions are validated, evaluated and valued: homes, galleries, museums, cars, cinemas and offices are just some obvious examples of the sites where the cultural artefacts conceived and shaped in studios are exhibited, installed, appropriated, experienced, transformed, discarded. In contrast to the laboratory, the world persists here as an uncontrollable and irreducible outside to which cultural artefacts and forms devised in the studio are ultimately delivered and where they have to impose themselves once more. Such an insurmountable gap between the studio and its outsides, constitutive of cultural artefacts, has two major consequences for studio cultures that we need to briefly address before presenting the chapters of the volume.

First, to the extent that studios are not sites of validation of cultural artefacts, they can remain withdrawn from the audiences' eye, exempted from the obligation to publicly disclose studio practices and arrangements. In most cases, there is indeed no need to painstakingly recording every studio operation in what would then probably be called a 'studiolog' – a word that doesn't even exist. Even if some recording takes place, this is never done for public accounting, but for keeping a studio memory. And the point is that this studio memory, as well as the variegated studio life we have been pointing to, define a workspace that is not just private, but intimate. As cultural historians and sociologists have suggested, the modern invention of intimacy did not just involve an interpersonal space protected from the public view, but also one, in which individuals engage with each other in a holistic manner, not reducing each other to specific public roles. This has particular methodological implications for ethnographers of studio life, who almost inevitably cannot restrain themselves from becoming 'native' members of studio collectives and thus actively involved in creation processes. Beyond this, it is possible to think the studio as a space of 'material intimacy' (Farías 2015b); a space

in which an intensive and holistic engagement with nonhuman entities as complex things that cannot be reduced to some of its qualities, properties or figurations takes place. The studio appears thus as a place, in which one lives with objects and materials, and where tinkering and invention results from the long-term engagement with them. More importantly, perhaps, the concept of intimacy describes a situation in which "a clear cut attribution of duties and responsibilities […] is […] no longer possible" (Luhmann 1998: : 57). Conceptualizing the studio as a site of interpersonal and material intimacy thus allows us to underscore the view that creation processes are not just radically distributed, but that it is also practically impossible to establish which human and non-human actors contribute what to the assembling of a cultural artefact. Authorship appears from this perspective less grounded in studio life than in the process of deciding which studio products leave the studio and how.

Second, and following on from the above, the question arises as to how do studio practitioners work towards strengthening the reality of their cultural artefacts. This is a key practical issue since the studio is separated from the sites where the reality effects of their newly created cultural artefacts are put to test – where the artefact-'public' (user, consumer, audience, spectator etc.) assemblage coheres. To approach this, the idiom of laboratory studies and for that matter innovation studies is not very helpful, as it emphasizes the practical construction of strong assemblages, stable configurations and powerful alignments of people and things. What is curious and perhaps idiosyncratic about cultural artefacts is that it often takes just a weak attachment to take hold, unfold and shape the real. No matter how much testing, repetition and so on goes on in advance in the studio, the practical problem is that the source of that weak attachment simply cannot be reliably anticipated. It could be anything: the colour, the finishing, a certain weight, a name, a reference to X, etc. There is no way to know or to model such things for the studio does not scale down the world; rather, it involves taking the risk of assembling alternative relationships between objects, people and spaces, introducing alternative propositions, imagining a different world. Studio practices are always a risky bet, the success of which rely less upon probabilistic practices or the 'studioification' (c.f. Guggenheim 2012) of the world than upon the aesthetic capacities of the artefacts invented to affect – or 'concrese' with, to return to a Whiteheadian terminology – its users and recipients.

Aesthetics, as the elephant in the room, can be addressed in this context. That is, away from the old disputes in the sociology of arts on whether the contents of art and issues of aesthetics and style can be explained by the historical, political and social contexts in which art works are produced or whether the sociological imagination is irrelevant since art works involve evaluative criteria autonomous from the social context and conditions and should be left to the practices of art theory and history (Fowler 2003, Zangwill 2002, Bourdieu 1993). Such ways of demarcating the boundary between social and aesthetics are not useful (Born 2010). Instead, following Latour's (1996) iconophilic lead, the key seems to be grounding the aesthetic in the series of transformations and mediations shaping certain objects and experiences. Studio work therefore involves a form of aesthetics-in-action, of assembling, improvising and manipulating cultural artefacts in view of producing affective attachments to future users, audiences, spectators and publics. Such a perspective requires overcoming the 'critical' mode of debunking (Latour 2004) the practices and beliefs of what might be termed 'aesthetic' publics as extant and passive collectives (c.f. Rancière 2009). It is

indeed by paying attention to the iconophilic proliferation of mediators in the studio that the ethnographer can start piecing together how studios wrought their own 'implicated actors'. From such a perspective, the classic definition of aesthetic experiences as those in which the sensorial perception and experience becomes an end in itself (Dewey 2005 [1934], Reckwitz 2012) can only be accepted as a possible accomplishment of studio tinkering with the aesthetic qualities of cultural artefacts. Thus, and by way of an opening to the studio as an empirical object for social and cultural research, this volume presents detailed descriptions of how the aesthetic is assembled in the studio.

The Structure of the Book
The bulk of this volume has been organized into three sections, each consisting of three articles. Throughout the process of preparing this volume, we have explored the capacities of different ordering strategies to relate and reinforce some of our main tenets for a research program in studio studies. The three concepts proposed here have been chosen to stress two key messages. First, that studios are not architectural types housing creative processes, but emergent topologies resulting from the execution of specific form-giving operations. Second, and as a consequence of the first, the studio as an emergent topology can be radically displaced and studio studies needs to follow such displacements.

The first section of the book – 'Operations' – radically expands and enriches some of the tentative steps made in the previous introduction regarding the operations of reconfiguration, invention and attachment shaping the studio. Three key studio operations are discussed here in detail: synthesising, referencing and taking points of view. Alex Wilkie and Mike Michael's exploration of three distinctive design studios, including a University-based research unit, a user-centered design group in a multinational IT corporation and a 'service design' consultancy, addresses – both ethnographically and conceptually – the combination of radically heterogeneous things coming into being through processes of becoming. Synthesis in their account is not dialectically thought, as the overcoming of difference and contradiction, but in terms of events crystallising coherent sociotechnical propositions and thus performing both a closing and an opening of the design process. Compared to other epistemic domains, the design studio exhibits a radical version of synthesis, as what enters into design events is particularly heterogeneous. Tomás Ariztía's chapter on the 'reference' as a valuation device also addresses the heterogeneity of elements brought together in creating an advertising concept, but, instead of the synthesizing process, he underscores the uses and transformations of the bits and pieces qualified as references. Ariztía shows that references are not just inspirational devices, departure points for creating new advertising concepts and campaigns, but that they retain a key role throughout the creative process as devices through which creative worth is mobilized and assessed. Somewhere between referencing to an already existing form and synthesizing heterogeneous elements into a new form, we encounter what Emmanuel Grimaud describes as the key operation constituting the film studio: taking someone's or something's perspective. Grimaud, however, is not just interested in the sociotechnical arrangements and filmic conventions of the classical studio setup to take someone's point of view. His main concern is to what extent the current proliferation of mounted cameras, attached to all types of nonhuman entities, is leading to a studioification of the world. Grimaud's chapter makes apparent one of the

key claims of this volume, namely, that the studio is the spatial configuration resulting from the realization of specific operations. The analysis of such operations by no means ends with the first section since the following chapters of the next two sections offer further descriptions to expand our conceptual repertoire for analyzing studio operations.

The second section of this volume – 'Topologies' – explores the relational spaces of various studio processes, complementing the move initiated in section one beyond an architectural understanding of the studio. The three chapters featured in this section explore spatial configurations that can be extrapolated to a variety of other cases. James Ash's analysis of the spheres and atmospheres of a videogame design studio describes key spatial arrangements shaping collaborative work across studio locations. Mobilizing Peter Sloterdijk's concepts of spheres and atmospheres, Ash explores the socio-technical underpinnings of studio spaces and the extent to which these are stabilized in spheres that do not coincide with architectural divisions. Thus, whereas headphones and servers allow for the emergence and ongoing enactment of shared spheres for teams working in different building stores, they also produce clear atmospheric boundaries within open-plan offices. Erin O'Connor provides a rich historical and ethnographic account of the contemporary glassblowing studio as different from the pre-industrial glassblowing workshops and the industrial glass factory, focussing on the inter- and intra-corporeal configuration of the 'hotshop' as it's key site. In O'Connor's account, studio spaces are not just shaped by specific sociotechnical arrangements allowing the team to work in a coordinated manner with certain tools, techniques and materials, but also by pre-individual intensities, such as heat or pressure, that circulate across the human and non-human bodies involved in glassblowing. Finally, Sophie Houdart engages with one fundamental topological configuration of any studio: the articulation of an inside/outside boundary. In her detailed description of the comings and goings of architects engaging in designing a contemporary glassblowing studio, Houdart demonstrates that crossing this boundary in different directions, leaving and entering the architectural studio, is crucial to expanding the space of conception. The studio as a space of conception is not a mental space, but the result of concrete sociomaterial arrangement and practices taking place both inside and outside the office. From this perspective, the studio is not simply an amalgamation of the inside and the outside, but the performance of the difference with its constitutive outside.

The third section – 'Displacements' – explores some of what could be called studio para-sites (Marcus 2013). It offers historical and ethnographical descriptions of the constitution of studios in unconventional and unexpected sites, such as the home, the corporation and extreme landscapes; that is, sites that seem to divert in every sense from what the studio is often expected and imagined to be. The three chapters composing this section explore these para-sites paying particular attention to the processes of displacement of conventional studio configurations and the ensuing transformations. This is particularly evident in Laurie Waller's archival research about electronic music composer Daphne Oram's home-studio and how the domestic shaped it as a setting of invention. The contrast traced by Waller with Oram's experimental practice at the BBC's Radiophonic Workshop is helpful to grasp the home-studio as a domestic site grounding an experimental practice less geared to success. Indeed, stressing the failure of the Oramics machine allows Waller to question the contemporary 'rediscovery' and appreciation of Oram's home-studio

practice. Over the last decade Ariane Berthoin Antal has studied the proliferation of artist residencies programs in corporate settings, paying attention to their impact on organizational cultures as well as the temporary reconstruction of an artistic topology, of studios and exhibition spaces, within firms and corporations. Her chapter features four distinct studio configurations in a French consulting company, showing how activities involving research, production and exhibition can be differently placed and linked to the organization's everyday routines. By emphasizing the plurality and plasticity of studio configurations, Berthoin Antal's chapter demonstrates the need for a relational understanding of the studio. Finally, Ignacio Farías chapter on the mobile studio of artist Mirja Busch aims at undoing the studio/site bifurcation in contemporary art discourses. By analyzing how studio operations, such as manipulation and storage, are performed under the precarious conditions of a road trip, this chapter links back to section one and closes the circle proposed by the editors.

Interspersed amongst the three sections of this volume are interviews with Georgina Born and Antoine Hennion, two eminent scholars who have played an instrumental role in the study of cultural production and offered formative studies of studio settings. In both cases, the status and role of the 'object' or cultural artefact is foregrounded as well as the intellectual milieu out of which each emerges. In chapter 5, Antoine Hennion speaks with Ignacio Farías about his work that cuts across advertising, amateurs, consumption, design, popular music and passion. Here, we get a sense of the studio as multiplicity in which connections are sought and forged between heterogeneous entities including, but not limited to users, publics, aesthetics, taste and so on. Crucially, such things are combined and emerge from the making of what Hennion describes as *maquettes* as 'empirical materializations of a plurality of things' – temporary stabilisations reminiscent of Michel Serres' (2007 [1980]) 'quasi-object' as a kind of intermediary between the studio-produced entity and its users, markets, publics and producers. In chapter 9, Georgina Born recounts her intellectual biography to Alex Wilkie and in so doing describes her post-Bourdieuian approach to the mediation of art works, notably musical works. Born's ethnographic engagement with prominent cultural institutions as well as local outfits points to the distributedness of studio set-ups and their multiple products, not least the finished 'work'. Here, Born points to how studios are productive of multiple temporalities mediated by the work, by the genre, by aesthetics as those times through which publics are sought and constructed. You will see that in both interviews ANT and STS are acknowledged, but you will also read dissatisfaction in the capacity of these approaches, honed on the sciences and technological innovation, to adequately dissect cultural practices and the studio. In this volume we believe there are the makings of the practico-theoretical tools for such work.

Finally, the afterword written by Mike Michael, who, for some years now has been at the forefront of design/STS studio-based collaborations, offers three provocative ways to think through the contributions in this book as well as presenting challenges for further work. First, pointing to phenomena of risk and consumption as shaped by the products of both studios and labs, Michael emphasizes the need to follow studio products outside the studio, paying attention to how they become mediators in processes of aesthetization and epistemization in everyday life. It is important to stress that Studio Studies does not attempt to leave behind the valuable traditions of studies that focus on the mediation of cultural artefacts (e.g. Hennion, Born, Gell,

Lash and Lury), but to expand the settings of this research and thus to explore related but distinct practices and processes. Second, Michael draws on Whitehead's notion of 'satisfaction' to characterise how particular creative moments concrese and how such moments are resourced – or 'grasped' to use Whiteheadian terminology – by prepositional actors, such as 'users' or maquettes, that productively reside between the actual and the virtual – between what is and what is to come. Here, we are asked to identify the variety of prepositional actors and reflect on their peculiar capacities for novelty. Indeed, present in this volume are a number of candidates. Artistic practices, marketing campaigns and glassblowing processes, to name just a few, become apparent as creation processes that articulate a variety implicated or putative actors that trouble or expand our understanding of 'users'. In so doing we glimpse the actual-virtual presence of large audiences, of critics, of consumers and of clients shaping studio practice in significantly different ways. Finally, Michael asks whether studio-based interdisciplinary practice can itself become a feature of social and cultural research, rather than an object of enquiry. For Michael, drawing on Isabelle Stengers (2010), this necessitates exploring the prospects for collaboration among social scientists and studio practitioners and reimagining joint work as occurring in an 'ecology of practice' in which collaboration occurs through difference. While little discussed in the book, many of the articles, especially those resulting from ethnographic engagements, are the upshot of collaboration across difference, of putting oneself 'in the presence of' others to learn from and think with them. The written accounts collected need to be read less as neutral descriptions, but as committed attempts to thicken the reality of the studio practices we have had the opportunity to explore.

Notes

[1] We thank Michael Halewood for his clarifications regarding the work of A.N Whitehead's, especially the precise provenance concept of 'creativity'.

[2] Knorr-Cetina (1983) provides an overview of the early wave of laboratory studies and Lynch (1993) presents a sober analysis of the field and a searing appraisal of *Laboratory Life* (Latour and Woolgar 1979).

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