

**Interstitial Spaces:**  
**Micro-Interaction Settings and the Genesis of New Practices**  
**between Institutional Fields<sup>1</sup>**

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This paper develops a model linking specific micro-interaction dynamics between members of different institutional fields and the genesis of new practices. The model centers on the concept of interstitial spaces –i.e. small-scale settings where individuals from different fields interact occasionally and informally around common activities to which they devote limited time (e.g. hobbyist clubs, hangouts, workshops, meet-ups). I argue that the features of interstitial spaces (e.g. their institutional diversity and their occasional and informal nature) facilitate the individuals interacting in these settings to temporarily break free from existing institutions and experiment collectively with new activities and ideas. However, these very same features hinder the constitution of such new activities and ideas into new practices. I identify two micro-level conditions that enable the new activities and ideas developed in interstitial spaces to be constituted into new practices: the emergence of successful interaction rituals, and the presence of catalysts sustaining others' interactions and assisting the construction of shared meanings.

*Without computer clubs there would probably be no Apple computers. Our club in the Silicon Valley, the Homebrew Computer Club, was among the first of its kind.... We had similar interests and we were there to help other people, but we weren't official and we weren't formal. Our leader, Lee Felsenstein, [a political activist], would get up at every meeting and announce the convening of "the Homebrew Computer Club which does not exist" and everyone would applaud happily (Steve Wozniack, Apple Co-founder, 2006, [added]).*

John Markoff (2004)'s vivid history of the Silicon Valley shows the crucial importance of small clubs and informal gatherings (such as the Homebrew Computer Club) for the genesis of innovative practices that eventually came to define the entire computer industry. These small-scale settings hosted informal, occasional interactions between people from distant institutional fields, such as hippie anti-war activists and "serious engineering types", becoming "perhaps the oddest of cultural and technical intersections" (Markoff, 2004: 265). New practices emerged from these small, apparently inconsequential 'interstitial spaces' between fields, bearing the "imprinting" (Stinchcombe, 1965) of the early-stage moments in which different cultures first met in these local, transitory settings. For example, the practice of freely sharing code -which would later come to define the open source community- initially emerged in hacker and computer hobbyist clubs, where political activists and computer engineers started intermingling to shape a new 'technology-for-the-people' counter-culture (Levy, 2001; Turner, 2006). Such situated micro-interaction dynamics, and their important effects on the genesis of new practices, are not unique to the high-tech world, but characterize several important phenomena at the intersection of fields, such as the emergence of new social protest practices in the Occupy Wall Street movement (Gitlin, 2012: 3-11), or the rise of bio-ethical practices in health-care (Jonsen, 1998: 13-19).

These important phenomena occurring between institutional fields have been only partially taken into account in extant institutional research on the emergence of new practices. In fact, institutional theory has traditionally been more concerned with the diffusion and

institutionalization of existing practices (e.g. Tolbert & Zucker, 1996) than with the *genesis* of new practices –i.e. the initial emergence of new practices which may eventually become institutionalized at later stages (cf. Lawrence, Hardy & Phillips, 2002; Padgett & Powell, 2012). As a result, research has developed powerful theories of practice diffusion (e.g. Strang & Soule, 1998), but we know less about the early-stage, transitional periods when “the possibility of a new practice first emerges and is recognized as an opportunity for some social groups” (Lounsbury & Crumley, 2007: 994). These initial, transitory moments are often lost in our historical re-constructions: yet, at a closer look, they turn out to be fundamental in explaining how new practices emerge, as the Homebrew Computer Club example reveals. Understanding the genesis of new practices is important, because it is during these early stages that shared meanings and symbols are ascribed to practices (Douglas, 1986); and “it is first through symbols that the meaning of material practices translates and travels” (Thornton, Ocasio & Lounsbury, 2012: 11; Zilber, 2008). However, despite its importance, the genesis of new practices has remained relatively under-theorized in institutional research.

Recent research has begun to inquire into the problem of new practice genesis by pointing at the structural intersections between institutional fields as favorable locations for the emergence of new practices (e.g. Powell & Sandholtz, 2012; Thornton, Jones & Kury, 2005). Several studies have shown that actors occupying structural positions that bridge multiple fields are more likely to dis-embed themselves from existing institutions and introduce new practices (e.g. Boxenbaum & Battilana, 2005; Greenwood & Suddaby, 2006). These studies have mostly focused on actors’ field positions – i.e. their legitimate identities in a field, including their formal roles (e.g. Bourdieu, 1990; Maguire, Hardy, & Lawrence, 2004). While focusing on relatively durable *positions* between fields, extant research has devoted less attention to the more transitional *situations* in which actors from different fields interact, and on how these situated micro-interactions between fields can affect the

emergence of new practices (e.g. Barley, 2008; Hallett & Ventresca, 2006). While an emphasis on individuals' field position has had the great merit of explaining how actors are differently constrained by field institutions (e.g. Battilana, 2006), it has also implicitly diverted our attention away from the fact that actors engage with practices "not as solitary individuals, but as social actors *interacting* with other social actors" (Thornton et al., 2012: 93, emphasis added; Berger & Luckmann, 1966: 43-48). Taking such micro-interactions into account is important because, ultimately, it is through situated interactions that institutions acquire their "local force and significance" (Hallett & Ventresca, 2006: 213), shaping how meanings are encoded into practices "on the ground" (McPherson & Sauder, 2013: 2; Binder, 2007; Reay, Golden-Biddle, & Germann, 2006). Situated micro-interactions are particularly important for new practice genesis when the interacting individuals are positioned in different fields (i.e. have different identities). In these micro-interaction situations, the different institutions to which the individuals have been socialized in their respective fields are likely to make social interactions problematic (e.g. Heimer, 1999), but also potentially conducive to the genesis of innovative hybrid practices combining their different perspectives (e.g. Murray, 2010; Colyvas & Powell, 2006), as emphasized by the example opening this paper.

Juxtaposing the important insights and scope limitations of previous research, the following over-arching research question emerges as the central concern of this paper: *how do situated micro-interactions between individuals positioned in different institutional fields affect the genesis of new practices?*

To shed light on this question, in this paper I direct attention to and conceptualize one particular type of micro-interaction situation involving individuals positioned in different fields -i.e. interstitial spaces- which, I argue, offers important opportunities for the genesis of new practices. I define interstitial spaces as the *small-scale settings where individuals positioned in different fields interact occasionally and informally around common activities*

*to which they devote limited time.* Examples of interstitial spaces include hobbyist clubs and interest groups, meet-ups and informal gatherings, small-scale workshops and hangouts where individuals from different fields interact around shared hobbies, pet projects, or similar part-time joint activities. The concept of interstitial spaces aims to capture everyday situations of social interaction between fields, which are not initially expected to be consequential, but which can nevertheless offer important opportunities for new practice genesis. In fact, the importance of interstitial spaces for new practice emergence is evident in numerous historical and contemporary examples, ranging from the 17<sup>th</sup> century British coffee-houses, which gave birth to the early trading and insurance practices that later defined the London Stock Exchange (Stringham, 2002; Ellis, 2004), to the recent “digital fabrication labs” (FabLabs), where computer scientists, architects and visual artists met to play with 3D-printing technologies, eventually giving rise to new ‘manufacture-yourself’ production practices (Anderson, 2013; Walter-Herrmann & Buching, 2013).

To understand how new practices can emerge in interstitial spaces, I develop a model linking the features of these interaction settings, the micro-interaction dynamics that can occur in them, and the genesis of new practices. Specifically, I illustrate how the three defining features of these settings facilitate the individuals interacting in them to temporarily break free from existing institutions and experiment collectively with new activities and ideas, which can in turn constitute new practices. For example, because of the occasional nature of interstitial spaces, the individuals interacting in these settings tend to perceive them as situations where there is ‘less at stake’, and so become more inclined to take risks and experiment collectively with new activities and ideas. However, the very same features of interstitial spaces that facilitate the initial emergence of new activities and ideas hinder their constitution into new practices. For example, the inherently transitional nature of interstitial spaces means that the new activities and ideas that emerge and are tried out in these settings

may easily ‘get lost’ and ‘fade away’, thereby making difficult their repetition over time and the formation of the shared meanings that are necessary for them to be constituted into new practices (Lounsbury & Crumley, 2007: 995; Smets, Morris, & Greenwood, 2012: 879).

I identify two micro-level conditions that enable the constitution of the new ideas and activities that emerge in interstitial spaces into new practices. First, building on and extending Collins (2004)’s interaction ritual theory, I show how successful interaction rituals –i.e. social interactions that produce high levels of mutual attention and emotional energy- can bring stability and order to the new activities and ideas tried out in interstitial spaces, thereby sustaining their repetition over time and enabling their constitution into new practices. Second, I illustrate the key role of catalysts –i.e. actors who sustain others’ interactions over time and assist the construction of shared meanings- in enabling the development of such new activities and ideas into new practices. I contend that when these two enabling conditions (successful interaction rituals and catalysts) are present, the genesis of new practices is more likely to occur in interstitial spaces.

In this paper, I make three contributions to institutional theory. First, by conceptualizing interstitial spaces as important micro-interaction settings where new practices can originate, I extend existing research on positions between fields (e.g. Battilana & Boxenbaum, 2005; Greenwood & Suddaby, 2006), by complementing its focus on more durable structural *positions* with an emphasis on more transitional *situations* of collective interaction between fields. Second, I contribute to previous research on the micro-level processes of practice emergence (e.g. Smets et al., 2012; Reay et al, 2006), by pointing at successful interaction rituals and catalysts as two important micro-level conditions enabling the emergence of new practices between fields. Third, I contribute to research on the micro-foundations of institutional theory (e.g. Powell & Colyvas, 2008) by focusing on micro-interaction situations as important supra-individual units of analysis, thereby contributing a

more situated and less strategic notion of agency than that often implied by notions of “hyper-muscular” institutional entrepreneurs (Lawrence, Suddaby & Leca, 2009: 1). In doing so, I respond to the call to re-incorporate the micro-interactionist perspective as the “road not taken” in institutional theory (Barley, 2008: 493).

The paper is structured in four main sections. First, I briefly illustrate existing theories of new practice genesis between fields; second, I develop the notion of interstitial spaces; third, I illustrate the conceptual model linking interstitial spaces and the genesis of new practices; fourth, I discuss the implications of the model for future research and practice.

### **THE GENESIS OF NEW PRACTICES BETWEEN FIELDS**

Practices are patterns of repeated activities that are infused with shared meanings (Smets et al., 2012: 879; Feldman & Orlikowski, 2011; Jarzabkowski, 2005). Thus, practices are not just activities, but rather activities that are both *recurring* and *meaningful* in the eyes of some social group (Zietsma & Lawrence, 2010: 190). The shared meanings encoded into practices are fundamental because they provide order and broader significance to “a set of otherwise banal activities” (Lounsbury & Crumley, 2007: 995). An institutional perspective on practice emphasizes that the shared meanings ascribed to practices are informed by wider cultural beliefs shared at the institutional field level (e.g. Thornton et al., 2012: 128-131)<sup>1</sup>. Therefore, practices are “visible enactments” of the shared beliefs that define the institutions of a field (Sahlin & Wedlin, 2008: 229). From these premises, explaining how new practices emerge becomes problematic; because, by definition, institutions facilitate the reliable, path-dependent reproduction of patterns of action and meanings (e.g. Clemens & Cook, 1999), so hindering the genesis of new practices.

Perhaps for this reason, institutional research has traditionally focused on the diffusion and institutionalization of existing practices in a field (e.g. Strang & Soule, 1998; Tolbert &

Zucker, 1996), leaving the genesis of new practices comparatively less explored. As a result, we know more about how existing practices diffuse than about how new practices are initially constituted (Leonardi & Barley, 2010). Yet, the initial construction of practices is crucial, because it is often in those foundational moments that shared meanings and symbols are encoded into practices, enabling them to travel and diffuse at later stages (Zilber, 2008).

Recent research has begun to tackle the problem of practice genesis by looking at the structural intersections between institutional fields as promising locations for the emergence of new practices (e.g. Battilana & Boxenbaum, 2005; Greenwood & Suddaby, 2006; Padgett & Powell, 2012). For example, Padgett and Powell (2012: 12) argue that new practices emerge when the multiple networks constituting different, macro-level social domains –i.e. fields- interact with each other, identifying several structural-network mechanisms underlying the genesis of novel practices. From a different theoretical perspective, institutional studies have emphasized the importance of structural positions that bridge multiple fields for the emergence of new practices (Greenwood & Suddaby, 2006; Powell & Sandholtz, 2012; Souitaris, Zerbinati & Liu, 2012). The core argument of these studies is that actors occupying structural positions between fields gain exposure to the distinctive institutions that characterize their different fields, thereby becoming better able to distance themselves from existing institutions and to “transpose”, “translate”, and “re-combine” practices across those fields (see Sahlin & Wedlin, 2008 for review). New practices often emerge out of these structural interconnections between fields, as by-products of the re-combination of existing practices, which embody the distinctive institutions regulating those different fields.

Taken together, these different studies have contributed greatly to our understanding of practice emergence by pointing to the importance of the structural positions (e.g. Greenwood & Suddaby, 2006) and interdependencies (e.g. Padgett & Powell, 2012) between fields. At the same time, by focusing on these *structural* factors underlying new practice genesis, this

research has devoted relatively less attention to the *situated, micro-level* interactions between individuals positioned in different fields, and to how these micro-interaction dynamics between fields can affect the genesis of new practices (Barley, 2008).

Recent research has recently highlighted the importance of micro-interaction processes for the transformation and creation of practices within fields or inside organizations (e.g. Hallett, 2010; Kellogg, 2009; Lok, 2010; McPherson & Sauder, 2013; Reay et al, 2006; Smets et al., 2012; Zilber, 2002). A key insight of this research is that individuals ascribe meanings to practices as they interact with each other in micro-level interaction situations, so that new practices often emerge as the result of local, situated, meaning-making processes (Hallett, 2010: 67). Thus, it is not only what people “do”, or where people are “positioned” in a field, that matters, but also how and where people “do things *together*” (Hallett & Ventresca, 2006: 216, emphasis in original; Becker, 1986).

In this vein, some scholars have emphasized the importance of micro-interaction settings in which actors construct new practices through focused, physically and temporally-bounded, social interactions (e.g. Kellogg, 2009; Lampel & Meyer, 2008). Although this micro-level research has greatly enhanced our understanding of situated micro-interactions, studies in this tradition have mostly investigated micro-interaction settings and processes within organizations (e.g. Kellogg, 2009; Hallett, 2010) or within single fields (e.g. Lampel & Meyer, 2008; Garud, 2008; Zilber, 2011; Mair & Hehenberger, in press), leaving micro-interaction situations *between fields* less investigated. However, as discussed, such situations are particularly valuable for explaining new practice genesis because of the different institutional templates that individuals from different fields bring to their interactions in these settings, creating fruitful opportunities for the genesis of new, hybrid practices.

In what follows, I build on, and extend, this emergent stream of micro-level institutional research by developing the concept of interstitial spaces, aiming to capture one

particular type of micro-interaction situation between fields -a situation which, I argue, is rich with opportunities for new practice genesis.

### INTERSTITIAL SPACES

Interstitial spaces are small-scale settings where individuals positioned in different fields interact occasionally and informally around common activities to which they devote limited time. First and foremost, interstitial spaces identify “settings”, intended as specific places and times in which individuals meet and interact –i.e. temporally and physically bounded “situations of social interaction” (Goffman 1967; Collins, 2004; cf. Feld, 1981; Sorenson & Stuart, 2008). Being interaction settings, interstitial spaces are fundamentally different from institutional fields –whether mature (e.g. Greenwood & Suddaby, 2006) or emergent (e.g. Maguire et al., 2004). While the notion of field connotes *macro-level patterns of relations* (and meaning systems) connecting a relatively large number of individuals and organizations (Scott, 1994: 206-207; Powell & Di Maggio, 1983: 148), interstitial spaces are *micro-level situations of interaction* between individuals. Thus, interstitial spaces identify ‘here-and-now’ episodes of interaction (Goffman, 1967), whereas fields describe the macro-level, structural patterns of relations -which are more or less durable depending on the level of field maturity- underlying those micro-interaction episodes.

Crucially, not every small-scale social interaction situation can be defined as an interstitial space. Interstitial spaces identify a special type of interaction setting defined by three key features, which refer to the types of individuals who interact in such settings (*individuals positioned in different fields*); to the nature of their social interactions in those settings (*occasional and informal interactions*); and to the focus of those social interactions (*common activities to which limited time is devoted*). In the next section I illustrate these three defining features of interstitial spaces, and then provide examples of such settings.

### **The Three Defining Features of Interstitial Spaces**

The first defining feature of interstitial spaces is that they are made of social interactions between individuals positioned in *different* fields. Being positioned in different fields, individuals are exposed to the different institutions and “distinctive rules of the game” that characterize their respective fields (Rao, Morrill, & Zald, 2000: 252). As a result, individuals interacting in interstitial spaces are likely to have diverse templates for action and organization, shaped by the different institutions to which they had been historically socialized via their different field positions (e.g. Battilana, 2006). Thus, interstitial spaces are interaction settings characterized by “institutional diversity” (e.g. Clemens & Cook, 1999).

In this regard, the notion of interstitial spaces acknowledges, and builds on, the importance of field positions in shaping individual’s cognition and behaviour as emphasized by previous literature (e.g. Battilana, Leca & Boxenbaum, 2009). At the same time, this notion draws a conceptual distinction between field positions –i.e. the relatively stable and durable identities that individuals hold in their fields (e.g. Bourdieu, 1990)- and situations -i.e. the inherently temporary and more transitional settings in which they interact. An important implication of this distinction is that, by interacting temporarily in interstitial spaces, individuals do not lose or change their structural positions in their respective fields. This is perhaps the crucial difference between the idea of interstitial spaces and other structural notions emphasizing institutional diversity between fields, such as “structural overlaps” (Thornton, 2004; Thornton et al., 2005) and “bridging positions” (Greenwood & Suddaby, 2006; Battilana & Boxenbaum, 2005; cf. Tracey, Phillips & Jarvis, 2011). While these notions denote actors that structurally occupy positions between fields, interstitial spaces do not indicate structural positions between fields, but rather temporary situations of interaction between fields that do not imply structural changes in individuals’ respective field positions.

The institutional diversity of interstitial spaces is also what makes these interaction settings distinctive from other important types of interaction settings highlighted in previous studies, such as “relational spaces” (Kellogg, 2009). Relational spaces connote settings in which people with different roles in an organization’s hierarchy (i.e. middle-managers and subordinate employees) can interact away from the direct observation of the defenders of the organizational status quo (Kellogg, 2009: 657). Differently, interstitial spaces identify situated interactions occurring between different fields, rather than within an organization. Thus, differently from relational spaces, interstitial spaces identify interaction settings that are institutionally diverse because the individuals interacting in such settings have been socialized to the different institutions regulating their respective fields.

The second defining feature of interstitial spaces is that they are identified by micro-interactions that are *occasional* and *informal*. I use the term “occasional” to connote social interactions that occur at irregular, episodic, or infrequent intervals; and the term “informal” to denote social interactions that are unscripted, spontaneous, and characterized by limited formal organization and ceremony (Collins, 2004: 271-273). Being occasional and informal, such social interactions lack the frequency, structure, organization, and formal obligations that can ensure their continuity over time, making interstitial spaces intrinsically fragile and transitory locales of interaction. Thus, interstitial interactions are often doomed to fade out, thereby leading to the dissolution of interstitial spaces –i.e. the breakup of interactions over time or the absence of follow-up. Alternatively, these interactions can consolidate into more structured and stable interaction patterns, thereby ceasing to be interstitial.

Indeed, the fact that interstitial spaces are defined by the types of social interactions that occur in them implies that, when the nature of those interactions changes, the setting itself changes and ceases to be an interstitial space. This makes clear a fundamental dynamic aspect of the concept of interstitial spaces: *a given interaction setting can be defined as an*

*interstitial space only for a limited period of time, as long as the interactions occurring in the setting remain occasional and informal.* If, and when, those social interactions become more formal and less occasional, the interaction setting will cease to be interstitial. Thus interstitial spaces are inherently transient situations of interaction, denoting social interactions that occur ‘here-and-now’, that are not necessarily expected to continue into the future, and may indeed not repeat at all, unless social processes develop that will sustain them, as I illustrate below.

The third defining feature of interstitial spaces is that they identify cross-field interactions around some common activities to which individuals devote *limited time*. These part-time activities can include shared hobbies, pet projects, passions, ideas and other joint pursuits, but they can also include common dislikes or distastes towards a third party (e.g. Corrigan-Brown, 2012). In this regard, the notion of interstitial spaces subscribes to, and builds on, an “institutional pluralism” perspective (e.g. Kraatz & Block, 2008), which sees actors as having multiple identities, which may be more or less central and stable depending on the level of material and cognitive resources (such as time and effort) that actors commit to maintaining and enhancing those identities (McCall & Simmons, 1978; cf. Mead, 1934; Stryker & Burke, 2000). The concept of interstitial spaces captures the everyday interactions that develop around activities induced by individuals’ more marginal and temporary identities –i.e. the activities to which individuals commit limited amounts of time and resources. These activities are often only weakly or indirectly related to individuals’ field positions, thereby creating opportunities for individuals in different fields who share similar part-time interests to meet (cf. Feld, 1981; Sorenson & Stuart, 2008). While these part-time activities may differ in the extent to which they relate indirectly to field positions, they share a common characteristic: individuals commit limited time to them compared to the substantial time they typically devote to the activities implied by their field positions. Indeed, because their field positions provide them with crucial opportunities and resources, “including rights to speak

and act” (Lawrence, 2004: 117), individuals tend to commit significant amounts of time to field-related activities that are aimed at maintaining and/or enhancing their field positions. Differently, individuals tend to see the common activities in which they engage in interstitial spaces as relatively marginal and inconsequential ‘pauses’, ‘breaks’ or ‘intervals’ between their more important field-related activities, and so they do not initially expect these part-time activities to be significant.

Taken together, these defining features illustrate how interstitial spaces are defined both temporally and spatially. Spatially, they are *small, in-between spaces* –i.e. small-scale settings where individuals from different fields meet. Temporally, they are *short, in-between temporal spaces* –i.e. short time intervals between the activities that individuals carry out, on a continuous basis, in their respective fields. The term “interstitial” has been chosen to capture both these temporal and spatial dimensions of the construct: indeed, the word “interstice” identifies “*a narrow, minute, opening between spaces full of structure or matter*”, but also a “*short space of time or interval between events or actions*” (Oxford English Dictionary, 2013). Similarly, a small-scale interaction situation can be defined as “interstitial” because it occurs between fields (“spaces full of [institutional] structure or matter”) and because it identifies a short break or interlude between individuals’ main on-going activities in their own fields<sup>2</sup>.

### **Examples of Interstitial Spaces and New Practice Genesis**

Numerous examples -both past and recent- have documented the importance of interstitial spaces for the emergence of new practices. For instance, Stringham (2002: 5-8) shows how the trading practices which later defined what became the London Stock Exchange originated in a few 17<sup>th</sup> century British coffee-houses, where merchants, jobbers, brokers and intellectuals “gathered to drink coffee, learn the news of the day....and discuss

matters of mutual concern” (Cowan, 2005: 75; Ellis, 2004: 166-184). Similarly, the practice of insurance contracting originated in London’s Lloyd’s coffee-house, where merchants, sailors, lawyers and ship owners met to exchange gossip and information (Miller, 1988: 1850; see also Ellis, 2004; Wright & Fayle, 1928). More generally, Habermas (1989)’s monumental work illustrates how small, apparently inconsequential spaces –such as Paris salons, Vienna literary cafes, English industrial-scientific societies- were instrumental in the transformation of the practices that came to characterize the Age of Enlightenment.

In more recent times, both Putnam (2003) and Oldenburg (1989) have documented the importance of “third places” (Oldenburg, 2001), informal gathering places where people can meet outside their main work activities, highlighting how these places often facilitate significant innovation in civic engagement practices. In fact, examples of interstitial spaces are also common in more recent cases of new practice emergence. For instance, Anderson (2013: 46-47) recently highlighted how computer scientists, architects and visual artists intermingled in ‘Fab Labs’ -digital fabrication labs- and makers’ clubs, where they could experiment and play with new 3-D digital technologies, giving rise to new ‘manufacture-yourself’ work practices (see also Walter-Herrmann & Buching, 2013: 12-15). Relatedly, Penning (1998) documents how the practice of mountain biking originated in riders’ clubs where diverse groups of riders started tinkering with their bikes to ride off-road (von Hippel, 2005: 72-75; see also Buenstorf, 2002). In a similar fashion, the practice of building ‘kit-cars’ (i.e. modular cars) was initially experimented by a diverse group of amateur car racers - doctors, journalists, aerospace engineers and mechanics- who gathered in the post-war British 750cc motor club (Morgan, 2009: 22-23; Stowe, 2001). Other examples of interstitial spaces can be found also in less technologically-intensive settings. For example, Gitlin (2012) describes how new social protest practices, such as the ‘human microphone’, that characterize what later became the ‘Occupy Wall Street’ movement, emerged from the spontaneous,

initially inconsequential aggregation of diverse individuals in physically bounded spaces. In a very different context, Sautet (1995) describes how new “philosophical consulting practices” -hybridizing counselling and moral philosophy- initially emerged from everyday encounters between people from different professional fields in Paris cafés.

### **INTERSTITIAL SPACES AND THE GENESIS OF NEW PRACTICES**

Figure 1 shows this paper’s proposed model, which links interstitial spaces and the genesis of new practices. In what follows, I briefly outline the model and then illustrate in detail the key concepts and relationships shown in Figure 1 in dedicated sections below.

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**Insert Figure 1 about here**  
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The model connects the features of interstitial spaces, the micro-interaction dynamics that can occur in them, and the genesis of new practices. As illustrated in Figure 1, the three defining features of interstitial spaces outlined above facilitate collective experimentation processes in these settings by temporarily freeing the interacting individuals from the institutions of their respective fields, and by facilitating them to re-combine their different practices into new activities and ideas. At the same time, the same features of interstitial spaces make difficult the constitution of those new activities and ideas into new practices by hindering the repetition of new activities over time and the construction of shared meanings around new ideas. Figure 1 highlights two key conditions that enable this process of activity repetition and shared meaning construction, thus allowing the constitution of new activities and ideas into new practices: 1) the emergence of successful interaction rituals (Collins, 2004); 2) the presence of catalysts –i.e. actors who sustain others’ interactions over time and assist the construction of shared meanings through multi-vocal coordination.

Thus, as illustrated in Figure 1, individuals interacting in interstitial spaces bring with them into such settings their existing, different practices to which they have been socialized in their respective fields. These diverse pre-existing practices are then re-combined through collective experimentation processes facilitated by the features of interstitial spaces, thus generating new activities and ideas. In turn, these new activities and ideas can be constituted into new practices via their repetition over time and the construction of shared meanings among the interacting individuals. This process of new practice constitution is hindered by the three features of interstitial spaces illustrated above, but can be enabled by two conditions (successful interaction rituals and catalysts). It is important to note that, while the three characteristics described above are *defining* features of interstitial spaces -and are therefore depicted in grey in Figure 1 as the large box representing interstitial spaces- successful interaction rituals and catalysts are conditions that *may or may not* be present in these settings. Therefore, my argument is that *when* these two enabling conditions are present, the genesis of new practices is more likely to occur in interstitial spaces.

Figure 1 also highlights two possible, eventual consequences of the interstitial genesis of new practices. First, the new practices generated in interstitial spaces can eventually be transposed to any of the institutional fields in which the interacting individuals are positioned (cf. Boxenbaum & Battilana, 2005; Greenwood & Suddaby, 2006). Second, these new practices may alternatively become the focal points around which a new institutional field emerges (cf. Morrill, 2000; Armstrong, 2002). Given that the focus of this paper is on the genesis of new practices (rather than on what happens afterwards), I do not directly theorize about these possible consequences (which are shown as dotted lines in Figure 1). Rather, I discuss the implications of the interstitial genesis of new practices for these -more widely studied- phenomena. In fact, as argued above, the diffusion and transposition of new practices (e.g. Strang & Soule, 1998; Sahlin & Wedlin, 2008), and the emergence of new fields (e.g.

Wooten & Hoffman, 2008), have been extensively theorized in institutional research. Thus, I build on this existing research to discuss these two possible consequences of the interstitial genesis of new practices.

In the following sections, I illustrate each of the links illustrated in Figure 1 in detail, providing clear definitions of all the concepts used in the figure.

### **A Vignette to Illustrate the Model**

In the sections below, I use the case of the Homebrew Computer Club -reported in the opening of this paper- as an example of an interstitial space to illustrate how the model shown in figure 1 works in practice. In particular, I use the numerous accounts of this club (e.g. Markoff, 2004; Levy, 2001; Wozniack, 2005a; 2005b; 2008) to illustrate each of the concepts theorized in the model. First, I give some background information on the example, to aid understanding the vignettes that illustrate the model in the following sections.

Founded in 1975, the Homebrew Computer Club (HCC) brought together two very different types of people: on one side, various electronic engineers and ‘technology geeks’ working in the electronic manufacturing field; on the other side, a range of political activists and “techno-cultural guerrillas” (Levy, 2001: 173), working as representatives of semi-organized interest groups in the community organizing field (Markoff, 2004). Historically, these two types of individuals had been exposed to very different institutions in their respective fields, which shaped their work practices and attitudes towards the computer technologies emerging at the time. Shaped by institutions emphasizing professional autonomy and technical expertise ideals, the engineers’ work practices were characterized by *working-alone* work routines and an *active, hands-on relationship with computers*, conceived as “active tools to interact with” (Levy, 2001). Shaped by institutions emphasizing democratic participation and community ideals, the political activists’ work practices were

characterized by *working-together*, collaborative work routines and a more *passive, hands-off relationship with computers*, conceived as “passive tools to use for” specific social or political purposes (Markoff, 2004).

This eclectic mix of people were originally attracted to interact with each other in a club by a shared passion to spend their free time discussing and altering electronic devices, ranging from primitive computers, TV terminals, typewriters or any “other digital black-magic box” (HCC Newsletter, 1975). Although this ragtag group of people initially got together to “do things that didn’t matter” (Levy, 2001: 206), what came out of their collective interactions in the club was something bigger and unexpected: a set of new practices for computing work. Often defined as “computer hacking practices”<sup>3</sup> (Magaudda, 2010; Coleman, 2013), these new computing work practices were identified by the following repeated activities (and their associated shared meanings): 1) the free sharing of all information, including computer software and hardware; 2) a collaborative, de-centralized way of working together with computers; 3) an active, hands-on relationship with computers. These new practices were significantly different from the established practices that club members were used to in their respective fields. More generally, the ‘computer hacking practices’ emerged in the HCC represented a radical new way of working with computers back in the 70s, when these machines were still widely seen as inaccessible “instruments of corporate and bureaucratic control” (Markoff, 2004: xii).

The following sections explain how these new computing work practices emerged from the apparently inconsequential micro-interactions unfolding in this interstitial space (the Homebrew Computer Club). More specifically, I show how these new practices emerged out of the re-combination of the existing, ‘old’ practices to which the diverse individuals interacting in the club were socialized in their respective fields, and how this re-combination occurred via, and was shaped by, their collective interactions in this interstitial space.

## **Interstitial Spaces and the Collective Experimentation of New Activities and Ideas**

The core argument of this section is that the three defining features of interstitial spaces examined above facilitate the individuals interacting in these settings to temporarily break free from their respective field institutions and to generate new activities and ideas by engaging in ‘collective experimentation’ –i.e. a process in which multiple individuals try out new activities and ideas collectively.

At the individual level, experimentation generally indicates a trial-and-error process, in which an individual explores and tries out new possibilities for action (e.g. Levitt & March, 1988). With the term “*collective* experimentation”, I connote processes in which multiple individuals explore new action possibilities *together, through their collective interactions* (cf. Hargadon & Bechky, 2006). These supra-individual, interaction-driven experimentation processes are fundamental to understand how novelty arises in interstitial spaces in the first place. Indeed, it is first and foremost through their collective interactions that individuals in interstitial spaces can re-combine their existing, diverse practices into new activities and ideas. By listening and paying attention to each other while carrying out common activities, such individuals gain exposure to their diverse cognitive templates and beliefs (shaped by their respective field institutions), thus becoming better able to connect their different institutional templates and beliefs in “ways that both redefine and resolve the demands of emerging situations” (Hargadon & Bechky, 2006: 486). Thus, through their collective interactions, individuals re-combine the different practices to which they have been previously socialized in their respective fields, thereby generating new activities and ideas. These activities and ideas can be considered ‘new’ because they mix ‘old’ practices from different fields in novel ways.

The three features of interstitial spaces examined above facilitate collective experimentation processes in several ways. First, the informal, un-scripted nature of

interstitial spaces makes individuals' previous scripts and templates of action -shaped by their respective field institutions- less salient and useful in these settings (cf. Thornton et al., 2012: 91-92), inducing individuals interacting in interstitial spaces to experiment with alternative courses of action and try out new activities and ideas. At the same time, in un-scripted situations it is more likely that individuals' attention is shaped by bottom-up factors (Ocasio, 2011), so that individuals are more likely to pay attention to the immediate situation, becoming more prone to pay heed to the people with whom they are interacting *in situ* (e.g. Weick & Roberts, 1993). In turn, this facilitates the collective interactions underlying collective experimentation, and the resulting generation of new activities and ideas.

Second, because of the occasional nature of interstitial activities, and the limited time devoted to them, individuals are likely to perceive interstitial spaces as situations where there is 'less at stake', becoming more inclined to take risks and experiment with alternative courses of action (cf. Edmondson, 1999). In fact, the initially inconsequential nature of interstitial spaces facilitates individuals to temporarily deviate from institutions without fear of incurring the sanctions that typically accompany institutional deviance (e.g. Scott, 2007). Similarly, because of the low expectations attached to occasional interactions, individuals in interstitial spaces are likely to communicate with each other openly and express themselves with relative freedom, thus engaging in collective interactions and experimentations.

In this regard, individuals interacting in interstitial spaces are likely to experience what has been defined as "liminality" –a condition experienced in periods of transition or crisis, when structure recedes in importance and "the usual practice and order are suspended" (Czarniawska & Mazza, 2003: 267; Howard-Grenville, Golden-Biddle, Irwin & Mao, 2011; Turner 1967). For example, studies have shown that organizational teams can experience liminality when they participate in training sessions, becoming separated from their previous social environment and so more prone to "think about how they think" (Howard-Grenville et

al. 2011: 523; Turner 1987). Similarly, because of their occasional and transitory nature, interstitial spaces are settings in which the constraining power of institutions temporarily recedes in importance, allowing individuals interacting in these settings to experiment with new activities and ideas. The idea of liminality is important to understand the condition that individuals may experience in interstitial spaces. At the same time, the notion of interstitial spaces differs from that of liminality because it explicitly emphasizes the institutional diversity of the individuals interacting in a setting, whereas liminality can also be experienced by more homogenous social groups experiencing transitions or significant crises (Turner 1967). In fact, institutional diversity is an inherent, key feature of interstitial spaces; one that distinctively shapes the opportunities that these spaces provide for new practice genesis.

Indeed, the institutional diversity of interstitial spaces is the third fundamental feature of these settings that facilitates the generation of new activities and ideas via collective experimentation. Institutional diversity implies that the pre-existing practices that are re-combined through collective experimentation are *different*, reflecting the diverse institutions and templates for action that individuals carry from their respective fields. Thus, if the occasional and informal nature of interstitial settings allows individuals to feel freer to communicate openly and experiment, their institutional diversity provides individuals with access to different institutional templates via open-ended communication and collective experimentation. In turn, by gaining exposure through collective interactions to each other's diverse templates, individuals in interstitial spaces re-combine the practices to which they have been socialized in their respective fields. As discussed above, this interaction-driven process of re-combination can generate new activities and ideas, which differ from the pre-existent practices characterizing the fields where individuals are positioned.

The Homebrew Computer Club (HCC) example provides a vivid vignette of how this re-combination can work in an interstitial space, giving rise to new activities and ideas

through collective experimentation. In fact, at least two new activities and ideas were collectively experimented in the HCC club. First, club members spontaneously started “freely sharing” software and hardware components (Levy, 2001). Second, they started to improvise “collective demonstrations”, in which electronic devices were collectively shown off and experimented, with demonstrators often helping each other in the process (Markoff, 2004).

These activities were ‘new’ because they departed from the existing work practices to which the different club members were socialized in their respective fields. The “technology geeks” were used to ‘putting their hands on’ computer machines *individually*, working alone without “addressing any audience larger than a tableful of electronic parts” (Levy, 2001: 216). So these people were not accustomed to working on computers *together*, as they eventually did during the club’s collective demonstrations; nor to freely and collaboratively sharing computer devices. Differently, the political activists were used to ‘working-together’ practices and a hands-off, passive relationship with computers. So they were more used to collaborative work practices, but less accustomed to ‘putting their hands on’ computers so directly and actively -as they eventually did in the club’s collective demonstrations- nor they were used to sharing computer devices freely with others.

Thus, the two activities of ‘sharing computers freely’ and ‘putting hands on computers together’ (as exemplified by the collective demonstrations) were new to people from both these work cultures. In fact, these activities mixed elements of the different beliefs and practices through which these different actors had approached work in their respective fields, before interacting in the club. The club’s collective demonstration activities mixed political activists’ collectivist-collaborative work practices with computer engineers’ hands-on-technology work practices. These different practices mixed through the collective interactions situated in the club, as this quote from one club member highlights:

[the club] *started with the this idea of owning computers, altering computers....but I was*

*there listening to these people [the political activists and engineers in the club] and how they combined their thoughts on humanity, about the goodness of society, along with the goodness of technology and how technology is good for us and how it helps us do good...and I was just so inspired thinking 'this is the good that we are doing'.....I want to put my talents in that direction. So I took it as my goal to design a very simple, affordable computer....and give it to the others. And I did, I passed it out for free. No copyright notices, no nothing (Wozniack, 2008; 2005a).*

As this quote reveals, it was by virtue of interacting with diverse others, and by combining their different beliefs on technology and society through their collective interactions (*listening to how diverse people “combined their thoughts”*), that club members came up with new ideas and activities to engage with computing work (*e.g. giving out computers for free*). This quote also emphasizes how these new activities and ideas were not anticipated at the outset, but rather were emergent by-products of the collective ‘meshing’ of people from diverse cultures who populated this interstitial space. At the same time, these forms of collective experimentation were facilitated by the informal and casual nature of the HCC interstitial space:

*the club didn't look formal, we didn't have a formal undertaking, it was without any script moves....I would bring my TV and set it on a table and show people what I got, I didn't have to fill out forms, I didn't have to ask permission.....any of those things would have stopped me.... and that was really kind of what made this club work (Wozniack, 2005b).*

### **Interstitial Spaces and the Constitution of New Activities and Ideas into New Practices**

Although the features of interstitial spaces facilitate the generation of new activities and ideas via collective experimentation, not all the new activities and ideas collectively experimented in interstitial spaces will generate new practices –intended as *recurring* patterns of activities infused with shared meanings (Smets et al, 2012: 879). In fact, to constitute new

practices, the new activities emerging in interstitial spaces need to be repeated over time, allowing new ideas to ‘stick’: to be shared among the people interacting in those spaces, thereby conducing to the formation of shared meanings around those new activities and ideas (e.g. Lounsbury & Crumley, 2007).

The same features of interstitial spaces that facilitate the spontaneous emergence of new activities and ideas also hinder their constitution into new practices. Indeed, because of the inherently transitional nature of interstitial spaces discussed above, many of the social interactions taking place in these settings are likely to fade out and dissolve, unless adequately sustained and reinforced over time. As a result, the new activities experimented in interstitial spaces may not be repeated, and the new ideas generated in these settings may get easily lost, thereby impeding the construction of shared meanings around those new activities and ideas. In the next two sections, I illustrate two conditions that enable the constitution of the new activities and ideas emerging in interstitial spaces into new practices: the emergence of successful interaction rituals (Collins, 2004) in interstitial spaces; and the presence of catalysts who sustain other actors ‘interactions over time and assist the construction of shared meanings.

***Successful Interaction Rituals and the Constitution of New Activities and Ideas into New Practices.*** In this section, I argue that the emergence of successful interaction rituals in interstitial spaces enables the genesis of new practices by sustaining over time the new activities and ideas emerged in these settings via collective experimentation. More precisely, successful interaction rituals provide a level of stability and order to such activities and ideas, facilitating their repetition over time and the construction of shared understandings around them -i.e. enabling their constitution into new practices.

Collins (2004: 47-49) defines successful interaction rituals as situated social interactions generating high levels of mutual attention and emotional energy among a set of interacting individuals<sup>4</sup>. Interaction rituals can be more or less successful, depending on the level of mutual attention and emotional energy that social interactions generate. Thus, only when the social interactions taking place in interstitial spaces generate high levels of mutual attention and emotional energy among the interacting individuals, we can say that *successful* interaction rituals have emerged in such settings. Therefore, successful interaction rituals are not defining features of interstitial spaces, but rather conditions that may (or may not) characterize a particular interstitial space.

I now turn to illustrate the two key elements identifying successful interaction rituals (mutual attention and emotional energy), unpacking the link between each of them and the genesis of new practices. The concept of ‘mutual attention’ connotes the idea that people participating in social interactions attend to “the same activity, and [have] mutual awareness of each other’s attention” (Collins, 1990: 31). At the individual level, attention encompasses noticing, encoding, and focusing time and effort on particular issues or activities (Ocasio, 1997: 189). An interaction ritual perspective emphasizes how attention is shaped by bottom-up stimuli related to the situations in which individuals interact and to the characteristics of those interactions (Collins, 2004; cf. Ocasio, 2011). Successful social interactions are those in which the participating individuals focus on each other, creating a mutual focus of attention and a reciprocal awareness of each other’s presence (Collins, 2004). In turn, this mutual focus of attention intensifies the interactional experience, so that social interactions producing higher levels of mutual attention are more likely to be remembered and to be re-enacted over time by the interacting individuals.

Thus, when the social interactions taking place in interstitial spaces generate higher levels of mutual attention around the new activities emerging in these settings, those activities

are more likely to be repeated in the future –i.e. are more likely to be constituted into new practices. Similarly, those new ideas that attract high levels of mutual attention are more likely to be talked about in future interactions in those settings, thereby facilitating the construction of shared meanings around those ideas over time, and thus the formation of new practices embodying those ideas. By implication, the new activities and ideas that attract instead lower levels of mutual attention are less likely to be repeated and talked about over time, making the constitution of new practices from these new activities and ideas less likely. In other words, successful interaction rituals producing high levels of mutual attention make some new activities and ideas more likely than others to be constituted into new practices.

Emotional energy is the other key element of successful interaction rituals. At the individual level, emotional energy can be defined as an individual's positive "feeling that one is eager to act and capable of acting" (Quinn & Dutton, 2005). Whereas psychological research tends to attribute these emotions to individual or personality traits (e.g. Frijda, 1988), a micro-interactionist perspective emphasizes how such feelings "build up in social situations" (Collins, 2004: 125), as the result of successful interactions between multiple individuals. Thus, emotional energy can be classified as a type of shared "positive affect" (Watson, Clark & Tellegen, 1988), experienced by a group of individuals as a shared positive mood, tone, or feeling, that persist from situation to situation (Summers-Effler, 2002). An interactionist perspective sees emotional energy as the residue of previous successful interactions, so that people energized by past positive interactions "seek them out time and time again in chains of interaction rituals" (Metiu & Rothbard, 2012: 4). Research has shown that people try to prolong or repeat activities that increase their emotional energy, whereas they try to avoid those which diminish their energetic arousal (e.g. Arkes, Herren & Isen, 1988). Therefore, social interactions that produce high levels of emotional energy around the new activities and ideas emerging in interstitial spaces are likely to facilitate the repetition of

those activities and the persistence of those ideas over time, thereby supporting their constitution into new practices. Differently, the new activities and ideas associated with lower levels of emotional energy are more likely to fade out and get lost over time, making their constitution into new practices less likely.

The Homebrew Computer Club case provides a vivid example of how successful interaction rituals sustained some of the new activities and ideas that emerged in that interstitial space, facilitating their constitution into new practices. Consider the following description of the successful interaction rituals emerging around the new activity of collective demonstrations (described above), referring to a specific collective demonstration improvised by a club member (Steve Dompier):

*There was no desk available, so Dompier set up shop on the floor, but when he plugged in his new computer, nothing happened. His heart sunk....with a little bit of experimentation, they [the other club members] determined that the recorder was running out of batteries....he spent hours figuring out how to create a musical scale. Then he used the radio....at the Homebrew meeting lightning struck when, unexpectedly, strains from the Beatles' "Fool on the Hill" emerged. When the song ended the room jumped to their feet offering thunderous applause...Everyone wanted to hear it again... (Markoff, 2004: 280).*

The high level of emotional energy and mutual attention generated around this activity prompted club members to repeat this type of collective demonstration activity over time. Thus, while this activity had initially emerged from the collective experimentation engaged in the club, HCC members soon routinized collective demonstrations as a recurring event of their club meetings by creating what they called 'random access periods', when members could wander around and set up their own computer demonstrations on card tables, helping each other and tinkering together with the machines being demonstrated (Wozniack, 2005b). In the same way, the activity of giving computer devices away (mentioned above)

became an important feature of the club, symbolized by the presence of a fishbowl in which club members could put devices to be picked up freely by others (Markoff, 2004).

In contrast, other activities experimented in the club did not attract high levels of attention or create high emotional energy. For example, Levy (2001:215) documents how there had been proposals in the club to organize cake sales to raise funds for the group, but while these activities and ideas were discussed during a club meeting “most ... club members ... [turned] to the back of the newsletter to study the schematics [of a computer]”. Similarly, when long lectures and educational tutorials about “good coding habits” were given in the club, “.....sooner or later people would get so impatient they’d slip out of the meetings and start exchanging information in the hall” (Levy 2001: 214). Because of the low level of mutual attention and emotional energy they generated, such new activities and ideas were collectively experimented with and discussed for a little while, but quickly became discontinued, and faded out of people’s attention. Because of these unsuccessful interaction rituals, these new activities and ideas failed to become constituent components of the new practices emerging in the HCC’s interstitial space.

***Catalysts and the Constitution of New Activities and Ideas into New Practices.*** Another important condition that facilitates the constitution of the new activities and ideas emerging in interstitial spaces into new practices is the presence in these settings of individuals playing the role of ‘catalysts’. Catalysts are actors that sustain others’ interactions over time and assist the construction of shared meanings by coordinating and energizing common activities. Catalysts may have designated jobs (but not necessarily with formal authority) in interstitial spaces -such ‘facilitators’, ‘moderators’, ‘organizers’, or ‘hosts’- or may instead play their role *de facto*, with no designated function. In both cases, what essentially qualifies individuals as catalysts are the activities they *do* to sustain others’ interactions and aid the

construction of shared meanings, rather than their designated jobs in the interaction setting.

More specifically, catalysts engage in at least three types of activities. First, they sustain others' interactions and the development of successful interaction rituals while social interactions take place in interstitial spaces –e.g. by encouraging and structuring focused discussions and by galvanizing the group, thereby reinforcing mutual focus of attention and emotional energy in others' interactions. Second, they provide order and continuity over time to interaction episodes –e.g. by organizing follow-up meetings, connecting meeting agendas over time, and distributing meetings notes. Third, they assist and facilitate the construction of shared meanings between interacting individuals –e.g. by picking up recurring ideas, words, labels, and symbols emerging from others' interactions and elevating such symbols to represent the group's shared understandings of their common activities.

As these descriptions imply, the role of catalysts is focused on the local, situated micro-interactions that unfold in interstitial spaces, connoting activities aimed at sustaining those localized interactions. From this perspective, catalysts can be regarded as individuals who are characterized by a behavioral orientation towards bringing forth, sustaining, and fostering social interactions among others (Obstfeld, 2005: 103; Powell, Packalen & Whittington, 2012). Although this generative role may characterize other settings, the work of catalysts is particularly salient in the context of interstitial spaces: because of the occasional and informal nature of such settings, catalysts are important for sustaining the temporal continuity of the otherwise fragile and transient social interactions that take place in interstitial spaces.

Because the individuals interacting in interstitial spaces have different cognitive templates for action and organizing shaped by the institutions of their respective fields, the activities in which catalysts engage require “social skill” –i.e. the “ability to induce cooperation in others” (Fligstein, 2001: 105). While the activities discussed above concern

*what* a catalyst can do to sustain others' interactions and assist the construction of shared meanings effectively, social skill refers to *how* these activities can be performed successfully in the presence of multiple institutions. Indeed, a catalyst performing any of the activities detailed above in interstitial spaces can easily dissatisfy some of the individuals interacting there, who might feel the catalyst inadequately represents their diverse opinions and perspectives. Thus, the catalyst's role is particularly delicate because of the mix of multiple institutions in interstitial spaces –i.e. the diverse belief systems of the individuals interacting in these settings. I highlight here one of the important social skills that characterize effective catalysts in interstitial spaces: that of *multi-vocal coordination* (cf. Padgett & Ansell, 1993).

With the term *multi-vocal coordination* I indicate a particular style of communication and interaction by which catalysts can coordinate the interactions of different others by using multi-vocal symbols –i.e. symbols that can be interpreted coherently from multiple perspectives simultaneously (Padgett & Ansell, 1993: 1263). Multi-vocality has been shown to be important for achieving coordinated action in both macro-level domains (e.g. Padgett & Ansell, 1993; Padgett & Powell, 2012) and micro-level settings (e.g. Leifer, 1988; Eccles & Nohria, 1990). Here I build on the insights of this research to conceptualize the multi-vocal coordination style characterizing catalysts' effective work in interstitial spaces.

In the context of interstitial spaces, multi-vocal coordination involves the construction of symbols that can appeal simultaneously to culturally diverse individuals, which have been socialized to the institutions of different fields. Essential to multi-vocal coordination is the development and nurturing of symbols (including words, labels, and other symbolic representations, such as objects, artefacts, visual icons, and gestures) that can simultaneously appeal to the diverse individuals interacting in interstitial spaces, and that can be interpreted consistently from their different institutional perspectives. Several examples of these symbols have been analyzed in previous literature (e.g. Carlile, 2002; Bechky, 2003). For example,

Star and Griesemer (1989: 393) highlighted the key role of boundary objects –i.e. artefacts that can be interpreted flexibly because they “inhabit several intersecting social worlds and satisfy the information requirements of each of them”- in coordinating the actions of culturally diverse actors. In coordinating multi-vocally, catalyst actors nurture and assist the development of shared symbols that can be collectively recognized and understood by the different institutional actors interacting in interstitial spaces. In turn, these shared symbols support those diverse individuals while they construct shared meanings around the new activities and ideas emerging in interstitial spaces, thereby contributing to their constitution into new practices.

Importantly, multi-vocal coordination does not imply a highly agentic process in which catalysts shape and control uni-directionally the construction of symbols for the actors interacting in interstitial spaces. Quite the opposite: in order to facilitate and guide the development of shared meanings between diverse others, multi-vocal catalysts do *not* insist that other actors play by their rules, they do not directly intervene in their interactions nor they attempt to overtly control and direct their diverse opinions and perspectives. Rather, multi-vocal coordination consists in *observing* others’ interactions *first*, and then guiding the development of commonly recognizable symbols as they emerge from those interactions (Leifer, 1991). Thus, multi-vocal coordination is more reactive and adaptive in nature, connoting a local, situated and pragmatic form of agency (Emirbayer & Mische, 1998).

The Homebrew Computer Club (HCC) case provides a vivid example of how multi-vocal coordination works in practice, and how catalysts can sustain others’ interactions and shared meanings in an interstitial space. In fact, two different people played the role of catalyst in the HCC, serving the role of ‘moderators’ who ran meetings and structured collective discussions. It is interesting to note why one of them (Lee Felsenstein) was perceived and is remembered by club members as a much more successful catalyst than the

other (Gordon French):

“[Lee Felsenstein] ...*ran the meetings in a simultaneously autocratic, democratic, and anarchist style....he was not averse to using the pointer to help subdue the unruly audience. Indeed, his pointer served many purposes, including as a stacking tool for collecting the paper-tape programs that the hobbyists brought to share with one another. From the start, Felsenstein encouraged this gift economy, urging the hackers, “Bring back more than you take”* (Markoff, 2004: 281).

“[Gordon French] *seemed to be out of sync with the anarchistic style of the hobbyists. He would stand in front and lecture on computer science until his monologues drove people who wanted to gossip out of the room”* (Markoff, 2004: 281). “*French’s style was not consistent with the Hacker spirit brewing in Homebrew...He would try to push the discussion to where he wanted it to go...and sooner or later people would slip out of the meetings”* (Levy, 2001: 213).

As these quotes reveal, Lee Felsenstein was perceived as an effective catalyst because he was ‘in sync’ with the spontaneous interactions and interaction rituals emerging in the HCC’s interstitial space, while simultaneously providing some order and stability to those interactions (*using the pointer to help subdue the unruly audience*). His multi-vocal coordination style was interpreted by members of the club as “simultaneously autocratic, democratic and anarchistic”, thus appealing to their diverse cultural beliefs. Felsenstein’s multi-vocal style is emblematically represented by the “multiple purposes” served by his pointer, which acted as a multi-vocal symbolic object to which all members of the club could relate despite their different institutional backgrounds. At the same time, he supported the construction of meanings that could be unifying and shared in the club (“*bring more than you take”*) by leveraging on the collaborative activities that were already emerging spontaneously in the club, therefore acting from within an understanding of others’ interactions.

In contrast, Gordon French appeared to be ‘out of sync’ with the playful interactions

and rituals emerging in the club, trying to overtly and uni-directionally control the emerging flow of interactions and to have others playing by 'his rules'. French's uni-vocal, uni-directional coordination style alienated others from collective interactions, and failed to create mutual attention and emotional energy among club members. Taken together, these examples reveal how multi-vocal coordination is important for catalysts to effectively sustain others' interactions over time and to construct shared meanings in interstitial spaces.

### **The Genesis of New Practices in Interstitial Spaces**

For the reasons discussed above, *when* successful interaction rituals emerge and *when* catalysts work effectively in interstitial spaces, the new activities and ideas experimented in these settings are more likely to be constituted into new practices.

In terms of their substantive content, the new practices originating in interstitial spaces are likely to be hybrid combinations of the existing, different practices that the individuals interacting in these settings bring with them from their respective fields. More precisely, from the perspective outlined here, the specific content of such new practices –i.e. the different ways in which they mix the diverse existing practices meshing in interstitial spaces- emerges as the by-product of two types of micro-interaction processes. First, the content of the new practices is shaped via the collective interactions by which individuals engage with collective experimentation in interstitial spaces. Depending on how these individuals collectively interact and experiment, different types of new activities and ideas can emerge in the first place -i.e. from different re-combinations of those individuals' different, pre-existing practices. In turn, these new activities and ideas provide the 'raw materials' from which different types of new, hybrid practices can eventually originate. Second, the content of such new practices is shaped via the micro-level reproduction of new activities and the construction of shared meanings around the new ideas emerging in

interstitial spaces. Successful interaction rituals and catalysts sustain these processes of micro-level reproduction and shared meaning construction, thus affecting whether or not some new activities and ideas are eventually constituted into new practices. Thus, successful interaction rituals and catalysts affect which of the new activities and ideas initially generated through collective experimentation are more likely to become components of the new, hybrid practices eventually forming in interstitial spaces.

### **Possible Consequences of the Genesis of New Practices in Interstitial Spaces**

In this section, I discuss two possible consequences of the interstitial genesis of new practices: 1) the transposition of the new practices generated in interstitial spaces to the institutional fields in which the individuals are positioned; 2) the emergence of a new field around the new practices generated in interstitial spaces. As Figure 1 shows, the focus of this paper is on the genesis of new practices in interstitial spaces rather than on what happens *after* they have emerged. Indeed, as already noted, previous research has extensively studied both the diffusion of existing practices (e.g. Strang & Soule, 1998; Kennedy & Fiss, 2009) and the formation of new fields (see Wooten & Hoffman, 2008). Therefore, here I build on these existing theories, by connecting them to the model illustrated in Figure 1.

***The Transposition of the New Practices Generated in Interstitial Spaces to Institutional Fields.*** Once emerged in an interstitial space, a new practice can be transposed to one of the institutional fields where the individuals interacting in the interstitial space are respectively positioned. Previous literature has defined practice transposition as the process by which actors select and transport practices across institutional fields (Boxenbaum & Battilana, 2005: 356). Because the new practices generated in interstitial spaces tend to be hybrid, and combine the different pre-existing practices of the diverse actors interacting in these settings,

they are likely to differ to some degree from the practices regulating the fields in which these actors are respectively positioned. As a result, the transposition of a new practice from interstitial spaces to these fields is likely to require some level of “adaptation” (Ansari, Fiss & Zajac, 2006) or “translation” (Czarniawska & Sevón, 1996; Sahlin & Wedlin, 2008), so the new practice ‘fits’ the target field’s institutions better. In addition, because of the novelty of the new practices generated in interstitial spaces, practice transposition may also challenge the target field’s institutions, leading to their non-adoption in that field (e.g. Fiss & Zajac, 2004). So the success of a new practice’s transposition from an interstitial space to a field cannot to be taken for granted and is likely to depend on the processes of practice adaptation and translation extensively analyzed in the literature (see Sahlin & Wedlin, 2008 for review).

***The Emergence of a New Field around the New Practices Generated in Interstitial Spaces.***

Another possible consequence of the interstitial genesis of new practices is that the new practices generated in an interstitial space become the focal points around which a new field can eventually emerge. Extensive institutional research has demonstrated how fields can emerge from a complex variety of social processes, typically requiring coordinated action among many diverse institutional actors (e.g. Di Maggio, 1991; Dezalay & Garth, 1996; see Wooten & Hoffman, 2008 for review). To discuss how a field may emerge around a new practice generated in interstitial spaces, here I elaborate on a stream of studies that illustrate how fields form and change around new practices (e.g. Morrill, 2000; Armstrong, 2002; Zietsma & Lawrence, 2010). For example, Morrill (2000) illustrated how the emergence of the new Alternative Dispute Resolution practice gave rise to new interactions among previously disconnected actors, eventually giving rise to the new field of legal mediation. These studies highlight how new practices can “anchor” field formation (Swidler, 2001), providing a focal point around which diverse actors can structure new relations, thereby

contributing to the “structuration” of a new field (Powell & Di Maggio, 1983). At the same time, these studies also illustrate that the formation of a new field around new practices requires significant levels of mobilization around the new practice (e.g. Lounsbury & Crumley, 2007), and is likely to face entrenched sources of resistance because of the practice’s novelty. So the emergence of a field around a new practice developed in interstitial spaces cannot be taken for granted, but can only be seen as a *possible* eventual consequence of the interstitial genesis of new practices in these settings. In fact, the possibility of such field emergence depends largely on the complex, multi-level social processes of field formation noted by previous literature (see Wooten & Hoffman, 2008 for review), and on the broader institutional context surrounding these processes (Reay & Hinings, 2005).

## **DISCUSSION**

In this paper, I have directed attention to and conceptualized interstitial spaces as important micro-interaction settings where new practices can originate, theorizing how the key features of these settings provide both opportunities and constraints for the genesis of new practices. Particularly, I have argued that the three defining characteristics of interstitial spaces facilitate the generation of new activities and ideas, but hinder their constitution into new practices. I have also identified two key conditions -successful interaction rituals (Collins, 2004) and catalysts- that enable the constitution of the new ideas and activities emerging in interstitial spaces into new practices, thereby theorizing when the occasional, informal interactions that take place in these settings are more likely to develop into new practices. I now discuss the implications of this paper for institutional research.

## **Implications for Research on Positions between Fields and New Practice Genesis**

This paper extends existing research on structural positions between fields and the emergence of new practices (e.g. Greenwood & Suddaby, 2006; Battilana & Boxenbaum, 2005) by complementing its focus on structural factors with an emphasis on micro-level interaction situations between fields. Specifically, I contribute to extant research by conceptualizing a particular type of micro-interaction setting between fields (i.e. interstitial spaces) and by illustrating in detail how three specific features of this interaction situation can simultaneously facilitate and hinder the initial emergence of new practices. Thus, while previous research has mostly focused on the characteristics of structural positions between fields (e.g. Powell & Sandholtz, 2012; Thornton et al., 2005), this paper concentrates on the features of micro-level interaction situations, explaining how such situation-based features shape the genesis of new practices between fields in important ways. More broadly, one of the key messages of this paper is that the characteristics of micro-interaction settings (*where* individuals interact) and the ways in which individuals interact in those settings (*how* they interact) matter for understanding how new practices emerge between fields.

This micro-interactionist perspective complements existing literature (e.g. Boxenbaum & Battilana, 2005; Greenwood & Suddaby, 2006; Powell & Sandholtz, 2012; Padgett & Powell, 2012), which has demonstrated how actors' field positions between fields enable and mediate the creation of new practices. In fact, as discussed above, the conceptualization of interstitial spaces advanced in this paper acknowledges the key role of field positions in shaping individuals' cognitive templates and practices (e.g. Battilana, 2006; Maguire et al., 2004; cf. Bourdieu, 1990). At the same time, the idea of interstitial spaces directs attention to how individuals from different fields re-combine their diverse templates and practices through situated, collective micro-interactions. The analytical payoff of looking, not only at structural positions, but also at interaction settings between fields, is that

a micro-interactionist lens allows us to zoom in on the micro-level conditions shaping the genesis of new practices. This paper contributes to this micro-interactionist perspective by identifying two enabling conditions (successful interaction rituals and catalysts) that support the micro-level reproduction of new activities and ideas in interstitial spaces, thereby enabling the constitution of those new activities and ideas into new practices.

By emphasizing the importance of both field positions and micro-interaction settings, this paper calls for more research integrating the insights of previous studies on field positions with the recent research on the micro-level processes of new practice creation (e.g. Lok, 2010; McPherson & Sauder, 2013; Reay et al, 2006; Smets et al., 2012). In this vein, an interesting avenue for future research would be to better understand the relationship between different types of field positions and situated micro-interaction dynamics. For instance, we might expect micro-interactions among individuals occupying central positions in a field to differ from those between peripheral actors. An interesting question for future research would then be to examine what types of interaction rituals and micro-interaction dynamics are likely to emerge in interstitial spaces, depending on the different field positions of the interacting individuals. Relatedly, the important role of field positions in shaping the formation of interstitial spaces deserves further investigation, in order to better understand what types of individuals are more likely to be attracted to such settings, and how their formation might be influenced by broader, macro-level structures.

### **Implications for Research on the Micro-Processes of New Practice Genesis**

This study contributes to recent research investigating the micro-processes underlying new practice construction (e.g. Hallett, 2010; Kellogg, 2009; Lok, 2010; McPherson & Sauder, 2013; Reay et al, 2006; Smets et al., 2012; Zilber, 2002), by extending this important research in two directions. First, while existing micro-level research mostly emphasizes

interaction settings located within single organizations (e.g. Kellogg, 2009) or within single fields (e.g. Lampel & Meyer, 2008; Zietsma & Lawrence, 2010), this paper considers micro-level interaction situations between multiple fields. As discussed above, these settings are particularly important for the genesis of new practices because their inherent ‘institutional diversity’ typically favors the emergence of new hybrid practices (e.g. Clemens & Cook, 1999; Murray, 2010; Powell & Colyvas, 2006). Second, by identifying successful interaction rituals (Collins, 2004) and catalysts as key micro-level conditions enabling new practice genesis in interaction settings between fields (i.e. interstitial spaces), this paper extends the available sets of micro-level factors highlighted by previous literature.

The identification of these enabling conditions enhances our understanding of new practice genesis because it contributes to further opening the “black-box” of practice (Lounsbury & Crumley, 2007: 993), highlighting how successful interaction rituals and catalysts shape the processes by which new practices can emerge in micro-interaction settings such as interstitial spaces. For example, the concept of successful interaction rituals (Collins, 2004) provides analytical leverage for understanding which new activities and ideas are more likely to be constituted into new practices, depending on the level of mutual attention and emotional energy that those activities and ideas elicit through localized social interactions. Taken together, these enabling conditions contribute to our understanding of practices and institutions as “inhabited by people and their interactions”, following the call to provide “a richer understanding of action, interaction, and meaning” in institutional theory (Hallett & Ventresca, 2006: 213).

This situated, setting-centered perspective on the genesis of new practices suggests several interesting avenues for future research. First, while successful interaction rituals and catalysts are particularly relevant in inherently transient and diverse settings such as interstitial spaces, it would be interesting to explore how such micro-level conditions might

affect other types of settings, and what kind of outcomes they might produce. For example, Lawrence (2004) describes how different types of formal and informal interaction rituals shape the membership dynamics of a professional field. A related question for future research would be to investigate how these micro-level conditions might differently influence new practice genesis in interstitial spaces depending on the composition of those settings (for instance, in terms of different levels of institutional diversity). Finally, another avenue for future research would be to further investigate the role of catalysts, with particular reference to their multi-vocal coordination style, offering fine-grained analyses of the social skills (Fligstein, 2001) that such actors may need to facilitate and sustain effectively others 'interactions in the presence of institutional diversity.

### **Implications for Research on the Micro-foundations of Institutional Theory**

This paper contributes to research on the micro-foundations of institutional theory (see Powell & Colyvas, 2008 for review) in two ways. First, while recent studies of the “cognitive underpinnings” of institutional theory have mostly focused on the individual as the key unit of analysis (George et al., 2006: 347; Weber & Glynn, 2006), this paper complements this perspective by highlighting the interaction situation as an important, supra-individual level of analysis (Goffman, 1967; Collins, 2004). In doing so, I contribute a less strategic view of agency by pointing at the importance of successful interaction rituals and catalysts, and by illustrating how both these factors enable the emergence of new practices without necessarily involving projective, individually-centered agency. In this regard, this paper advances recent research aimed at discovering different forms of agency, which can enrich the sometimes simplified portrait of institutional entrepreneurs as visionary, “hyper-muscular” change agents (Lawrence et al., 2009: 1) and as “Deus ex Machina” (Delmestri, 2006: 1536–1537). Differently from this portrait, the model developed here privileges

situated and collective interactions as important processes underlying the genesis of new practices, thereby following the call for more research on the micro-interactionist foundations of action as the “road not taken” in institutional theory (Barley, 2008).

Second, by showing how the features of interstitial spaces allow individuals to free themselves temporarily from existing institutions, this paper takes a step towards examining the effects of interaction situations on institutional actors’ cognitions and behaviors, thus following the recent call to incorporate “situationism” more explicitly in the micro-foundations of institutional theory (Thornton et al., 2012: 80). In particular, by building on Collins (2004)’s interaction ritual theory, I concentrate on the bottom-up, situation-driven processes of attention, on which more research has been called for (Ocasio, 2011). In fact, we know that actors’ attention and cognitions are shaped by field-level institutions (e.g. Thornton & Ocasio, 1999; Nigam & Ocasio, 2010), but we only partially understand how the cognitive templates and practices (to which actors are socialized in their fields) are enacted in situations of collective micro-interaction (e.g. see Thornton et al., 2012 for review).

From this perspective, a promising avenue for future research would be to further investigate how institutional- and situation-level factors interact in shaping individuals’ cognition and behavior in different types of interaction settings. In fact, we need to better understand how situated micro-interaction dynamics and the genesis of new practices can be shaped simultaneously by features of the settings in which individuals interact, and by the broader institutional contexts in which those individuals are embedded.

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- <sup>1</sup> An institutional field is defined here as an arena, whose participants partake of a common meaning system and interact more frequently and fatefully with one another than with actors outside of the field (Scott, 1994: 207-208; McAdam & Scott 2005: 10).
- <sup>2</sup> For different uses of the term ‘interstice’ in sociology (not related specifically to micro-interaction settings) see: Mann (1986); Morill (2000); Rao et al. (2000); Ruef (2002).
- <sup>3</sup> Throughout the paper, I use the term ‘hacker’ and ‘hacking’ to refer to their original meanings -connoting computer enthusiasts sharing their work and tinkering with computers (Himanen, 2001; Levy, 2001)- *not* to refer to the more recent popular conceptions of hackers as ‘computer criminals’.
- <sup>4</sup> From an interaction ritual perspective, the concept of ‘ritual’ differs from the common understanding of the word as related to formal ceremonies. In fact, Collins (2004) defines interaction rituals more broadly as referring to any physically- and temporally-bounded micro-interaction situation. Thus, interaction rituals can identify both *formal interaction rituals* -scheduled public displays, such as formal gatherings and ceremonies- and *informal interaction rituals* -such as conversations and encounters. In this sense, the social interactions that take place in interstitial spaces are a special type of informal interaction rituals characterized by the three distinctive features examined above. However, as I explain, the social interactions unfolding in these settings can be qualified as *successful* interaction rituals only when they produce high mutual attention and emotional energy.

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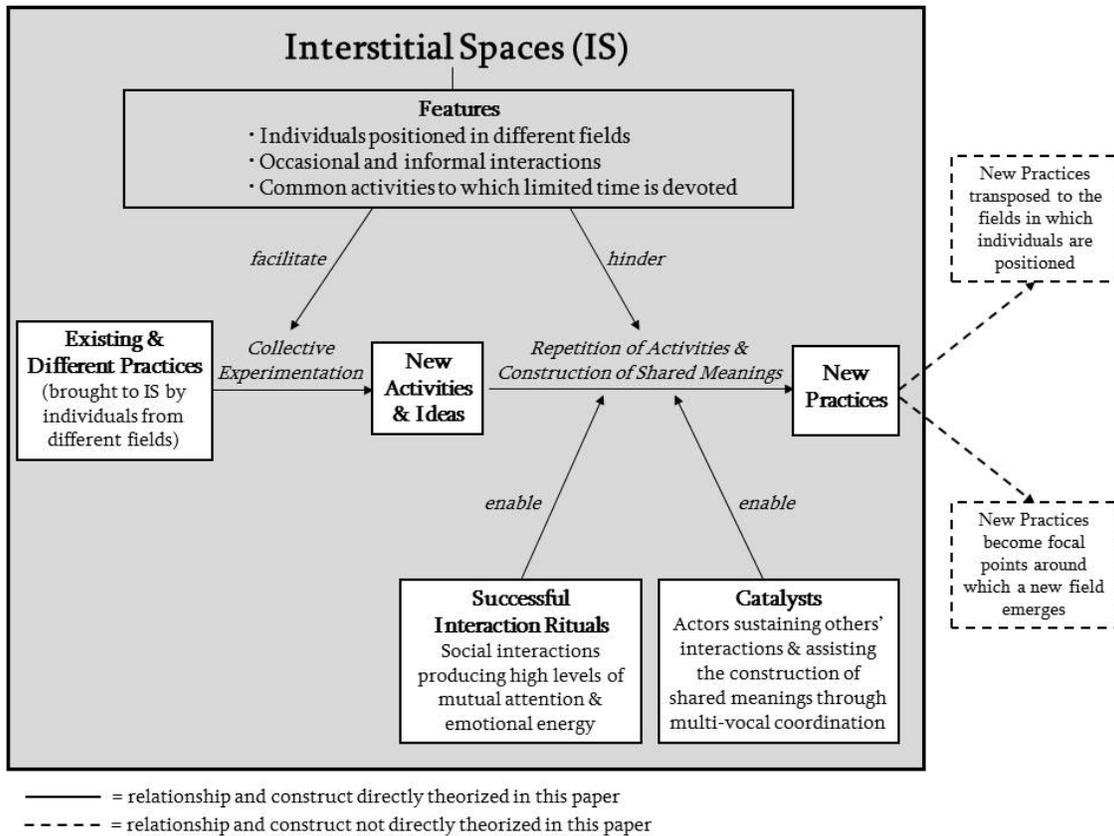
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**Successful Interaction Rituals**

Social interactions producing high levels of mutual attention & emotional energy

**Catalysts**

Actors sustaining others' interactions & assisting the construction of shared meanings through multi-vocal coordination

**FIGURE 1 - Interstitial Spaces and the Genesis of New Practices**

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