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## RIDING THE PRACTICE WAVES:

### SOCIAL RESOURCING PRACTICES DURING NEW VENTURE DEVELOPMENT

**This paper investigates how early venture entrepreneurs engage in socially embedded practices to resource their firm. We contribute to an emerging literature that calls for a shift in perspective from ‘resource’ as an object to ‘resourcing’ as a practice. This shift entails a focus away from whom entrepreneurs know toward how they engage with their venture’s social contexts. Through the analysis of an in-depth longitudinal case study of a life-science venture, we show that social resourcing practices are more reminiscent of a creative coping with ambiguous and ever-changing environments over time than of ‘heroic’ strategizing. We explore how entrepreneurs mobilize and creatively combine their social resources at hand, seek resources through engaging with other practice nets, negotiate differences between practice nets, and reflectively adapt their resourcing practices toward emerging resource contexts in ways that we describe as ‘riding the practice waves’ of social resourcing.**

## INTRODUCTION

In the entrepreneurial literature social connections are seen as a key resource to be developed, deployed and maintained in the process of new venture development (for instance Aldrich & Zimmer, 1986; Hite & Hesterly, 2001; Davidsson & Honig, 2003; de Carolis & Saporito, 2006; Mosey & Wright, 2007). In perusing the social resource literature in entrepreneurship studies, however, a divergence emerges between a conceptualization of social resources as being ‘owned’ and strategically deployed by an entrepreneur and that of social resources as embedded in the relationships between actors and emergent only in use. This study sides with this latter, broadly pragmatist conceptualization. Its aim is to understand how early venture entrepreneurs engage in socially embedded practices to resource their firm and how these practices unfold over time in so-called practice nets or practice meshes (Schatzki, 2006; Nicolini, 2009). With this objective, we shift away from a focus present in much of the social capital literature on *whom* an entrepreneur knows toward an understanding of *how* they engage in social practices of resourcing.

We understand the term practice as ‘provid[ing] order and meaning to a set of otherwise banal activities’ (Lounsbury & Crumley, 2007, p. 995). Perceived from a pragmatist perspective, practices are social; a practice such as entrepreneurial resourcing always takes place as situated in a field of shared understandings (Schatzki, 2002; Reckwitz, 2002). Conceptually we draw upon previous research on network bricolage (Baker, Miner, & Easley, 2003) and resourcing (Feldman, 2004; Howard-Grenville, 2007; Quinn & Worline, 2008; Feldman & Quick, 2009) to research social resourcing practices in new venture development. Through the analysis of an in-depth longitudinal case study of a life-science venture, we demonstrate that identifying resources and acting toward them shapes enterprises and their contexts simultaneously, and that resources emerge from these shapings in ways that can rarely be fully anticipated. Our contribution is to demonstrate that there is no ‘out there’ of social resources waiting to be identified and acquired by entrepreneurs over time. Instead, these resources emerge as they are engaged with, in real time and over time, and as a consequence of and impetus to entrepreneurs’ ongoing resourcing efforts. From this perspective, two points become apparent: that social capital cannot be banked and tapped into if and when needed, and that social resourcing is not heroic in the sense that it is fully strategized and deliberate (see also Garud & Karnøe, 2003). Rather, social resourcing is akin to what we describe as riding ‘practice waves’ in ever-changing waters.

The remainder of this paper develops as follows. We first trace the inroads that the practice perspective has made in and its further potential for entrepreneurship research. On this basis we compare extant perspectives on social resources with what we would expect from considering social resourcing through a practice lens. This comparison allows us to refine the theme driving our research into more specific questions that act as guides to our methodological approach as well as to the subsequent analysis of a multi-year case study

tracing the resourcing practices of the protagonists of a life-science venture from a nascent stage to its first viable commercial product. The discussion and conclusion relate these findings back to the literature on social resourcing and evaluate the study's significance for future entrepreneurship research.

## **CONCEPTUAL BACKGROUND**

### **Entrepreneurship theory and the practice perspective**

This paper adopts a practice-based perspective as its epistemological stance. Broadly speaking, pragmatist or practice-based perspectives highlight the embeddedness and interrelatedness of actors and contexts as intrinsic characteristics of any social process (e.g. Reckwitz, 2002; Schatzki, 2002; Geiger, 2009). While it is beyond the scope of this paper to do justice to the nuances of different practice-oriented perspectives, excellent reviews of these traditions have been written in the past years (e.g. Reckwitz, 2002; Steyaert, 2007; Feldman & Orlikowski, 2011; Johannisson, 2011). Of these pragmatist traditions, Bourdieu's practice theory, and his concepts of social capital and habitus more specifically, have been the most prominent point of reference for entrepreneurship researchers (e.g. De Clerq & Voronov, 2009; Terjesen & Elam, 2009; Anderson, Dodd, & Jack, 2010). In these explorations, social capital is conceptualized as the sum total of economic and other benefits that can be derived from an individual's or a collective's relationships as situated within a field of practice. A field of practice is seen as a social microcosm, which is constituted by collective actions and the institutionalized rules and norms that govern these actions – or the field's habitus. De Clerq and Voronov (2009) for instance conceptualize entrepreneurial newcomers' legitimizing efforts as adapting to a field's habitus by balancing between 'fitting

in' and 'standing out'. Similarly, Anderson, Dodd and Jack (2010) and Terjesen and Elam (2009) demonstrate how entrepreneurs reach out of their social networks while remaining anchored within these networks' shared practices when exploring new growth opportunities. Through the emphasis on habitus as a strongly structuring force, the focus of these accounts lies on the entrepreneur working in a "knowledgeable, reflexive and strategic" fashion (Terjesen & Elam, 2009, p. 1115) to mould their social environments in such a way as to maximize different forms of individually held capital (Antcliff, Saundry & Stuart, 2007). What remains less visible in these accounts is the enactive element of the resourcing process, the improvising and muddling through in a context that is active as well as reactive, the ways of coping and acting when not fully knowing what the environment may hold in store, that have been highlighted as essential yet undertheorized elements of the entrepreneurial process (Johannisson, 2011).

In line with practice-based explorations in other areas of organizational inquiry (e.g. Nicolini, 2009; Jarzabkowski & Spee, 2009; Geiger, Kjellberg and Spencer, 2012), we suggest complementing existing accounts of entrepreneurial resourcing based on Bourdieu's notions of habitus and social capital with a different, and arguably more radically relational, practice perspective, as formulated among others by the social theorist Theodore Schatzki (2002; 2005; 2006). Schatzki (2002, p. 72) defines practices as "open, temporally unfolding nexuses of actions", or more simply put, bundles of actions that are recognizable, but not fully determined, by a particular social context in meaningful constellations – such as for instance negotiation practices, baking practices or educational practices. This definition signals two important points: One, practices are dependent on what Schatzki terms 'practical understandings', which he defines as "knowing how to X, knowing how to identify X-ings and knowing how to prompt as well as to respond to X-ings" (2002, p. 77). It is through these

shared understandings that practices tie together the social and the individual. Practices are thus fundamental to the production of social reality (Feldman & Orlikowski, 2011), but unlike in Bourdieu's notion of habitus, social reality is not seen as reified practice bundles that all but determine individual action. Two, while practices are always enacted in slightly different ways, in order to remain meaningful, they are different in comparison or in relation to preceding practices. Individual creativity and shared routines, change and stability therefore are important facets of every practice (Schatzki, 2002). Schatzki's practice theory sensitizes us toward seeing humans as acting in the world and on the world, and as doing so in a way that is intelligible to others because they engage in actions that have a history, and thus meaning, but that are also creative, because they are purposefully geared toward coping with an unknown environment and future.

We suggest that adopting Schatzki's practice perspective in an investigation of entrepreneurial resources allows us to paint a close and authentic account of the creative processes of adapting toward perceived resources through which new ventures often develop, and how such improvising can create and sustain, as Baker and Nelson (2005, p. 329) put it, "something from nothing". In most managerial theories, resources are seen as building blocks of organizational growth; either emanating from an external environment, in which case organizational success will depend on capturing and utilizing such resources (e.g. Pfeffer & Salancik, 1978), or being built from the inside out, in which case organizational success will depend on a firm's ability to optimize its internal capabilities (e.g. Wernerfelt, 1984). In either case, resources are seen as relatively fixed entities that can be attached to and detached from an organization and combined in various ways. Using a practice perspective suggests a very different view of resources, as something that can only ever be understood as existing in and through the use that is made of them in specific social contexts. As Feldman and

Orlikowski (2011, p. 1246) maintain, “things are only resources while they are being used... it is the combination of thing and use that makes a resource”.

Feldman (2004, p. 295) coined the term ‘resourcing’ to describe resources as “mutable sources of energy rather than as stable things that are independent of context”. This notion of resourcing has found some use in organizational studies, especially in investigations where the focus was on the enactive element of the resourcing process that the concept suggests (Howard-Grenville, 2007; Quinn & Worline, 2008; Feldman & Quick, 2009). For instance, in their paper on courageous collective action on United Airlines Flight 93, Quinn and Worline (2008) theorized collective action as generative and traced an (admittedly unusual) case of resourcefulness as a property of a spontaneously emerging social network. Utilizing a similar theoretical perspective in an empirical setting situated closer to the entrepreneurship field is Garud and Karnøe’s (2003) research on distributed and embedded agency in technology entrepreneurship. Breaking with the tradition of ‘entrepreneurs as heroic’, these authors see resources as distributed and mobilized in the Danish wind turbine industry by drawing upon the “generative impulses of actors from multiple domains” (p. 277). Baker and Nelson (2005) similarly reject resources as existing ‘out there’ in a resource environment; their accounts of successful entrepreneurs in resource deprived environments drives out just how much resources exist ‘at hand’, that is in and through the connections made in socio-material networks. Resources, in this sense, cannot be considered independent of their position and use in these nets of practices. Rather, actors endeavor to put in place those worlds that they feel they can prosper in, and these worlds then become the context and source of their subsequent actions.

## **Social resourcing in new ventures**

Entrepreneurship research has long recognized that social connections play a vital role in the process of new venture development (for instance Aldrich & Zimmer, 1986; Hite & Hesterly, 2001, de Carolis & Saporito, 2006). New ventures frequently start with little or no tangible resources (Shane & Stuart, 2002), which means that from the outset the nascent firm needs to orient to external resource providers for survival and future development (Jarillo, 1989; Hite, 2005). In this process social connections are often seen as instrumental in gaining access to other resources such as finance, equipment or expertise (Aldrich & Zimmer, 1986; Johannisson, 1990). The idea of social connections yielding resources is usually encapsulated in the term social capital. While this concept itself has a number of definitions (Adler & Kwon, 2002), it may be described as “...the sum of the actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit” (Nahapiet & Ghoshal, 1998, p. 243). Two points are noteworthy at this juncture: one, that the very concept of social capital emanates from Bourdieu’s practice theory, which indicates that even when conceptualized as a resource social capital should not be seen as something that is “solid, durable and independent” from its use (Steen, 2010, p. 326). The second point to note is that in Nahapiet and Ghoshal’s definition of social capital, as in many others, a contradiction emerges between the embeddedness of social resources or capital in a network of relationships, and thus necessarily in-between, and the notion that despite this embeddedness, this capital could be possessed by an individual or social unit. As we pointed out in the preceding section, adopting the progressive pronoun ‘resourcing’ highlights that resources emerge in the act of using them, rather than being something that can be owned, banked and cashed in at will, as

the notion of social capital may suggest. We will now turn to outline what exactly a shift in perspective from social capital as an object to social resourcing as a practice could add to extant research on new venture development.

Structurally, social connections are often characterized as strong or weak, a characterization that refers to the nature of the relationship between social actors (de Carolis & Saporito, 2006). Close personal relationships are typically described as strong ties and depicted as a bonding or glue-like form of social capital (Adler & Kwon, 2002; Davidsson & Honig, 2003; de Carolis & Saporito, 2006). Researchers have argued that during the new venture development process strong ties are often readily accessible and are more likely to provide support where other, weaker connections are perhaps unwilling or inaccessible (Larson & Starr, 1993; Hite & Hesterly, 2001). Mosey and Wright (2007) linked the nature and strategic use of strong ties to the prior experience of the academic entrepreneurs they studied. Similarly, Davidsson and Honig (2003) found that the use of strong ties is based on entrepreneurs' ideas of bonding. Both sets of authors model entrepreneurs' knowledge of and experience in using social bonds for resourcing as human capital and thus individually held, which indicates that in these authors' view individual human skill or capital predicates the use of social capital. Using Schatzki's practice perspective on the other hand would suggest that utilizing relationships to access resources is in itself a social practice – if I request assistance or support from another person for my venture, I better engage in a socially recognizable and recognized activity (see also Nicolini, 2009). This also indicates that while the idea of using relationships for resource mobilization may be shared among entrepreneurs, the practical manifestation this understanding takes may differ from one specific field of practice to another, for instance between academic and business entrepreneurs. We adopt the term practice net from Nicolini (2009) for these fields of practice to foreground the

importance we put on understanding shared practice over that of the structural properties of such fields or networks. As Corradi, Gherardi and Verzelloni (2010) have highlighted in their call to reverse the notion of community of practice into practices of the community, situated actions create a context in which social relations among people stabilize - regardless of that community's or network's structural properties, membership or social cohesion.

From a practice perspective, relationships within an entrepreneur's immediate practice net are akin to what Baker and Nelson (2005, p. 729) called 'resources at hand' when arguing that when entrepreneurs make do "by applying combinations of resources already at hand to new problems and opportunities", they engage in (material, labor or skills) bricolage. We follow Baker, Miner and Eesley (2003) in adopting the term network bricolage to describe how founders' immediate professional strong tie network shapes what materials (in terms of information, advice or skills) are readily available and trusted. Desa (2012) highlights the transformative process that occurs during such episodes of bricolage. Thus, this literature suggests that nascent entrepreneurs are likely to engage in a certain amount of bricolage or creative (re)combination of the strong ties at their disposal, the outcome of which will be unique to them, but which may also not be fully pre-planned (Baker et al., 2003; Johannisson, 2011). To shed further detail on this process of network bricolage, we ask:

*RQ1: How do entrepreneurs mobilize and creatively combine social resources at hand in their practice nets?*

As well as strong ties, entrepreneurs may accumulate, develop, and use weak ties, which are often described as serving a bridging or lubricating function (Granovetter, 1973). Weak ties are loose connections between individuals and may be either direct or indirect, and either within the same broad network or network spanning. Weak ties can help access, combine and integrate disconnected actors and novel information, resources, and opportunities (Mosey,

Lockett, & Westhead, 2006). It is said that as a new venture evolves, its networks develop into broader sets of functional ties, which tend to be more instrumental in their focus and often initially weakly held (Hite & Hesterly, 2001). This development typically occurs because the resources required for the development of new ventures may not be available from the venture's initial social network at hand (de Carolis et al., 2009). Relevant to our current perspective, Davidsson and Honig (2003) have suggested that this process may also entail a widening of the frame of reference or worldview of the nascent entrepreneur. In the literature on resource bricolage, the use of weak ties is described as resource seeking (Baker et al., 2003; Baker, 2007), and its benefits are encapsulated in Baker and Nelson's (2005) notion of 'refusal to enact limitations'. Adapting this notion to social resourcing practices, we can expect that at some point in the development of the nascent firm the entrepreneur will seek to engage in, understand and learn about new and unfamiliar practices outside of their immediate professional network. This process could act as an important creative impetus and help entrepreneurs not only further their goals but also adjust them through adapting to other communities' practices and understandings (Schatzki, 2002). This begs the question of how nascent entrepreneurs manage to 'step out of' the practice net they are embedded in and 'across' into others, given that from our perspective this stepping out and across is not related to relational structures or connections, but to shared meanings and understandings. In addition, Araujo and Easton (1999) warn that weak ties are particularly fragile connections which are difficult to stabilize, which raises the issue of maintaining an engagement with a different practice net as well as accessing it in the first place. The issue of resource seeking by network spanning or bridging thus becomes one of engagement, stabilization, and maintenance. We therefore ask:

*RQ2: How do entrepreneurs familiarize themselves, engage in and maintain an understanding of other practice nets when resource seeking?*

Related to the question above, engaging in another practice net can create an additional issue of reconciling different rules and patterns of activities. Mosey, Lockett and Westhead (2006) for instance show that for academic entrepreneurs the needs and habits of the academic network can be vastly different to those of the practitioner/industrial network. Similarly, Mosey and Wright (2007) evoke the notion of structural hole in explaining novice academic entrepreneurs' difficulties in getting a foothold in practitioner or finance networks, but importantly also point out that the existence of boundary spanners such as technology transfer officers may fail to compensate for the lack of direct personal experience. In pragmatist and practice theories, notions of socially embedded know-how are often evoked to highlight how novices have to learn to engage in a community of practice from the periphery through processes of socialization or apprenticeship in order to perform competently (Lave and Wenger, 1990; Collins, 2001). In addition, Schatzki (2005) emphasizes that while often interlocked, neighboring practice nets' understandings and habits could be either coalescing or competing with each other. If competing, the nascent entrepreneur may have to reconcile and make meaningful contradictory practices in their resourcing efforts. For instance, when formulating a business plan, the entrepreneur may have to combine differing expectations and worldviews, such as those of financial investors and those of potential markets. It follows that a key task of any aspiring entrepreneur is not just to engage in and use social networks, but also to know how to personally engage in, adapt to and resolve differences in understandings and in social routines between practice nets. This raises the following questions:

*RQ3: How do entrepreneurs cope with differences across diverse practice nets?*

While the literature on social capital is relatively silent on how exactly social resources are used, the objectives social connections are directed toward have been very well researched. One of these objectives is to access information and advice during the new venture development process (Birley, 1985; Araujo & Easton, 1999). Other potential objectives are to overcome the liability of newness (Stinchcombe, 1965) and uncertainty surrounding the venture's markets, products, or organizational processes (Aldrich & Fiol, 1994) and to gain legitimacy in the eyes of specific resource providers (Suchman, 1995; Zimmerman & Zeitz, 2002). The types of activities required for legitimation will depend on the stages of development of a new venture (Vohora, Wright, & Lockett, 2004; Drori, Honig, & Sheaffer, 2009) and include such practices as the legal incorporation of a firm (Delmar & Shane, 2004), inter-organizational endorsement (Stuart, Hoang, & Hybels, 1999), and enrolling the symbolic capital and prior experience of specific individuals in the new venture (Shane & Cable, 2002; Higgins & Gulati, 2003). From a practice perspective, one should note the socially constructed and shared nature of such concepts as prestige, trust, legitimacy, and status, but also remember that such socialized concepts often become inscribed, mobilized and leveraged through material devices such as business plans or models (Doganova & Eyquem-Renault, 2009; Mason & Spring, 2011). While practice theory recognizes instrumentality as an important reason for taking part in a shared practice (Schatzki, 2002), it views it as a much more complex issue than portrayed in the social capital literature, dependent on material inscriptions, shared understandings, common goals, and a continuous reflectivity on the part of the actor to reconcile their actions and end goals with an ever-changing context (Schatzki, 2002). We therefore ask:

*RQ4: How deliberate and reflexive is entrepreneurs' engagement in social resourcing practices?*

To summarize, in the entrepreneurial literature social connections, usually described as social capital, are seen as a key resource that is to be developed and maintained in the process of new venture development. A practice perspective on social resourcing would not deny these findings. It may however emphasize more strongly that social resources are never really the property of an individual or social unit, but lie in-between, in other words the act of connecting quite literally *is* the resource. What follows is that 1) social resources only exist through their use; and 2) the use that can be made of these resources depends on the social practices and shared understandings that make this use meaningful. From a methodological perspective, we may also add that these practices unfold and change over time, so that a perspective of the resourcing ‘as it happens’ becomes necessary (Schatzki, 2006) and that they may have strong material traces (Schatzki, 2002).

## **RESEARCH METHOD**

### **Data Collection**

The aim of this study is to understand how early stage entrepreneurs use socially embedded practices to resource their firm and how these practices unfold over time. In order to investigate practices empirically, we needed deep engagement with the field site over a prolonged time period, allowing us to ‘follow the practice’ across the entire practice net and as they unfold (Schatzki, 2005; 2006; Nicolini, 2009; Johannisson, 2011). Such deep immersion in a single, exemplary case and its broader context also offers a unique capacity for theory building (Dyer & Wilkins, 1991; Siggelkow, 2007).

We carried out field research at Levodex<sup>1</sup>, an Irish life-science start-up, and across its practice net between January 2002 and July 2006, with secondary research reaching back to

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<sup>1</sup> All names of companies and individuals are pseudonyms.

1999, in a broadly ethnographic and process-based take on the case study method (Van de Ven & Poole, 2005). The data collected formed part of a larger research project but a significant aspect of the fieldwork focused on entrepreneurs' social activities with regard to resourcing. To develop an initial sense of the organizational field in which the budding case firm was situated, we began by collecting information on and attending industry events of the emerging Irish life science sector. Through introduction, first contact was made with one of the principal promoters of Levodex at the point where they were about to join a university incubation program. Primary research began in January 2002 and consisted primarily of regular semi-structured interviews that lasted between 45 minutes and two hours over a period of four and a half years with all the members of the management team, venture capitalists, representatives from the government agency that invested in the firm, and organizers of industry events. Further, we accessed all of the venture's evolving business plans as well as all their investment presentations over this time period to study the material representations of our entrepreneurs' resourcing practices. We maintained informal contact with all relevant individuals involved through meetings and conversations, industry events and networking forums. As we started to iterate fieldwork and data analysis we used e-mails in addition to personal meetings to verify our understanding of this case. Data collection for this project wound down in July 2006 when Levodex was about to release their first viable product line because at that point the entrepreneurs' focus had shifted away from entrepreneurial resourcing in the narrow sense toward other, though related, practices (especially market practices). In brief, we traced the action of social resourcing across the entire action net (Czarniawska, 2004) and over an extended and significant time period (Van de Ven & Engleman, 2004). The multiple data sources also ensured that we observed social resourcing practices *in situ* (Schatzki, 2005) as well gathering participants' evolving

reflections on their practices and the practices' material articulation across the duration of the fieldwork. Table 1 represents a summary of all our data sources.

[TAKE IN TABLE 1 ABOUT HERE]

### **Data Analysis**

We started to sort and categorize our emerging data in accordance with the techniques advocated by Strauss and Corbin (1998) while still engaged in the field. The longitudinal nature of this study allowed for analysis in processual terms, but we were acutely aware that a practice perspective should not impose a chronological corset of staging on the activities observed. We therefore sorted data according to different patterns of activities within periods as emerging from the transcripts and the business plans. For participants, each period was characterized through either a focus on specific resources that the firm sought to access or through a major event occurring for the venture. These were often alluded to by participants as critical events that the firm encountered over time and that shaped the entrepreneurs' activities immediately and their plans for action in the future, whether in looking at episodes in a relationship or in the development of the venture. In other words, in analyzing our data we followed our research participants' parsing of time as event time (Czarniawska, 2004; Van de Ven & Engleman, 2004; Schatzki, 2006).

With this initial parsing of time in mind, data were categorized according to distinct social activities (for example dealing with venture capitalists or dealing with Big Pharma). Comparisons were made between alternative perspectives on the same or similar activities or plans for action, a process which took the analysis from an individual's perspective into the social site (Schatzki, 2002). To complement the interview and observational data, business plans and other firm documents were analyzed in terms of how they reflected past or planned

actions for each of the emerging periods of the development of the venture. We read these documents as materialized representations of plans of actions with ‘ostensive’ value (whom they were supposed to mobilize or what they were supposed to do those whom they mobilized) rather than representations of reality (Feldman & Pentland, 2003). The following case narrative will describe the main social resourcing activities of Levodex’s protagonists (see Table 2 for a cast list) through parsing the data into the four distinct event periods that emanated from the data analysis.

[TAKE IN TABLE 2 ABOUT HERE]

## **SOCIAL RESOURCING PRACTICES IN LEVODEX**

### **Grasping an Opportunity (October 1999-December 2001)**

Levodex is an Irish venture started by two scientists working in a Dublin university. The initial idea for the venture was to operate in the area of chiral synthesis<sup>2</sup> to help in the end production of pharmaceutical products, agro-chemicals, or flavors and fragrances, using high through put experimentation and screening machinery. The idea for the company originated in 1998 at an academic conference but it was not until October 1999 that the two principal promoters, Dr Barry Keenan, a junior scientist, and Dr. David Grant, Keenan’s PhD supervisor, agreed to form a company. Keenan perceived a significant commercial opportunity in this area; Grant, on the other hand, saw the commercial potential as a means of accessing much-needed funding for his scientific research interests. Neither of them had any commercial knowledge or experience. As a first step to building the company Keenan decided to take part in a university campus company program, as part of which a business

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<sup>2</sup> The core area of Levodex, chiral synthesis, involves the production of molecular compounds in single handed form, which can be advantageous for example to drug manufacturers because certain molecules can have greater efficacy in this form. Other advantages of chiral compounds are the potential cost efficiencies in the production of a variety of products and potential environmental benefits. Interest in this area has been driven in the main through the 1992 FDA guidelines on single handed drug manufacturing.

mentor was assigned to him. Keenan and Grant also started to seek advice on their plans and turned to, amongst others, their university's Vice President for research and an academic chemist and friend of Grant's who had started his own nanotech company. Initially they had planned to raise around €40,000 to lease a rudimentary machine and begin to carry out experiments, but this friend's advice was that they were *“not at the right scale... it is too small. Could you get there sooner if you had 40 machines”? We said 'Yes'. He said 'Well that is what the investor looks for”*. (11/08/04)

Accordingly, they scaled up their initially modest draft business plan from €40,000 to a rather considerable €5 million to cover a four year period which would fund the purchase of four trains of combinatorial machinery and the hiring of 12 scientists. To back up these new lofty ambitions and to help attract potential investors and commercial partners they were advised to draw together a prestigious scientific advisory board (SAB) that, once funded, could also help expedite the discovery process through its scientific expertise. Grant was a well-respected chemist in the academic field of chiral catalysis and had worked or was acquainted with many of the leading figures in this field. Through his scientific connections he recruited a leading academic figure in this field as the board's chairman and prominent academic and industrial chemists as members of the budding company's SAB.

By July 2001, Keenan and Grant began to more seriously look for small scale funding and applied to a company incubation center run in their university's business school, to which they were introduced by Keenan's campus company mentor. The director of this incubation house needed to house credible businesses to legitimize the incubation program. One week before the interview the chairman of Levodex's newly assembled SAB won the Nobel Prize for chemistry, which Keenan and Grant credited as having a great impact on their acceptance onto the program and their receipt of an initial starter grant of €76,000. One stipulation was

that they had to hire an MBA graduate from the Business School as company CEO who would be paid by a business school endowment. They eventually chose Paul Cranford, an individual who had a background in engineering but had never worked in the pharmaceutical or Life Science industries. At the time of his appointment, Cranford noted that “... *the company had been formed for two years and [the business plan] was still a four page executive summary.*” (03/07/02).

So, with acceptance into the incubation center and a CEO in place they were now ready to embark on looking for the multiple millions needed to realize the perceived entrepreneurial opportunity.

### **Searching for Venture Capital (January 2002-April 2004)**

Keenan and Grant knew that the amount of capital they sought could realistically only be forthcoming through venture capital (VC). At the time, the venture capital industry in Ireland consisted of just over 20 indigenous funds with limited resources in international terms. In 2000, Enterprise Ireland, a government agency charged with assisting indigenous Irish firms, had helped establish new funds with an explicit mandate to invest in seed and early stage projects. Three of these funds (hereafter VC Funds 1, 2 and 3) were specifically established to invest in the biotech/life science area and in spin-outs from universities. They all considered three main criteria in the investigation of an investment opportunity: the experience and potential of the management team, existing or potential intellectual property, and market opportunity and financial considerations.

Assisted by contacts in the incubation space and perhaps helped by the presence of a Nobel laureate on their SAB, Levodex was initially well received by the VC community. But

despite this general welcome, a number of issues soon arose. First, the proposed area of activity was fairly esoteric even for the few specialist funds, and explaining what they were attempting to do was difficult. Second, despite acting as an initial door-opener, VCs proved ultimately unmoved by prestigious SABs and Nobel Prize laureates. The VCs also felt that Levodex was looking for considerable funding for a venture that lacked prior commercial experience and, most importantly, had no intellectual property (IP). To ‘give the VCs a product’, as they put it to us, Keenan and Grant began to search around Grant’s lab work for any potential IP they could attach to the company. Out of this search emerged what came to be called the P-process, a modification of a method that could be used to discover and develop so-called p-chiral catalysts. On the back of this find, the entrepreneurs completely rewrote their business plan and began re-connecting with Irish VCs. For expert help in negotiations with potential investors they drafted in a financial consultant, James Kennedy, to whom they were introduced through fellow members of their incubation center. However, even with this piece of IP and despite engaging in a protracted period of negotiation with VC Funds 1 and 2 between summer 2002 and spring 2003, they were eventually turned down by both funds. The reasons given included the amount of money sought, the underdeveloped nature of their IP and the lack of experience of their management team. Keenan however reckoned that both negotiation processes did not evolve independently:

*“...being in Ireland and where everyone knows everyone else..... if you only have three options it is almost like a cozy cartel. So they all know you are speaking to each other and they know who you are speaking to and when you are speaking to them. So it was quite easy for them to have you over the barrel.....” (25/10/03)*

Indeed, one venture capitalist admitted to the researchers:

*“People would know who is good and who is hot, you know Dublin is very small in general, when you get into a specific sector it is smaller again...” (28/11/03).*

At this point, under duress to raise money they changed their business plan to seek €700,000 in investment over 12 months that would be based on proof of concept and would involve buying a single train of machinery, renting lab space and hiring two chemists to develop their P-process on a commercial basis. The idea was to reduce the perceived risk associated with the venture. VC Fund 3 became interested in funding the nascent firm on this basis but uncertainty around the market value of the opportunity and the management persisted.

To overcome these twin problems the venture took two steps. First, the members of their SAB were mobilized to meet with potential investors and clients to convince them of the size of the investment opportunity and of the potential technical benefits respectively. Furthermore, Keenan and Grant decided to appoint a new CEO, because VCs had repeatedly justified the refusal of funds with an industry outsider being at the helm of the venture. Keenan was involved in an Irish life science association and through another member was introduced to Brendan Egan, who brought over 30 years experience in the pharmaceutical sector and who had recently been involved in the set-up of and sale of a Belgian life science venture for over €400 million. Moreover, Egan was well known to VC Fund 3, as he had been scouting around for new projects in the country for some time. After a number of meetings, Egan agreed to become Levodex’s CEO on a part-time basis. Over the following six months, Levodex negotiated with VC Fund 3 for proof of concept funding. Involved in the negotiations were Keenan, Grant and Kennedy, their financial consultant. However, it soon transpired that Kennedy also had involvements with the institutional investor behind VC Fund 3, and there was a suspicion that this dual allegiance may hamper his ability to negotiate the best possible terms of contract. Eventually, after protracted negotiations, term

sheets were signed with contractual stipulations including milestones such as optimizing the P-process, demonstrating its use for industry and the sourcing of potential customers.

### **Proving the Concept (May 2004-November 2005)**

Levodex now had funding in place for proof of concept. The new CEO Egan reasoned that necessary key activities now included the development of Levodex's technology, the initiation of commercial relationships, the development of operations, and the raising of further funding within a 12 to 18 month timeframe. As well as bringing his own experience and commercial knowledge to these aims he saw his network as key to achieving these goals:

*"I have a very wide range of contacts...I have an enormous network, and plugging them into the right people is going to be quite important in this, which I can do." (07/05/04)*

Under Egan's guidance, Levodex strived hard to develop commercially during this period. One of the industrial chemists on the company's SAB had moved to take up a senior position in a multinational pharmaceutical firm and arranged for them to meet with decision makers and from this a small piece of contract work developed. This contract was judged to be of great value because to work with a large multinational firm provided some legitimacy to the firm as well as partially meeting one of the milestone criteria of their investors. In addition, the multinational left open the possibility for further work for Levodex. The firm also succeeded in selling a small quantity of material for trial to a major fine chemicals company, a contract which was also arranged through a member of their SAB. During this time, Levodex intermittently interacted with a UK-based firm that had approached Levodex to produce a particular type of chiral ligand. No deal could be agreed and soon afterwards that company collapsed, but Levodex managed to recruit that company's part-time sales director

Barney Cummins. Like Egan, Cummins premised his value on the ability to utilize his contact base to help generate commercial contacts for Levodex.

Technologically, this period was characterized by renewed attempts at optimizing and producing a number of catalysts for industry to test. Progress however was slow, due to lack of financial resources and manpower. They had hired in two inexperienced chemists who were finishing their PhDs with Grant, but Grant himself continued his role as an academic researcher and only worked in a part-time capacity for Levodex. So far the lab had only developed one catalyst at a high level of purity and seven at much lower purity levels. Further grant funding was needed to continue the technological development, and a small government grant offered to stimulate interaction and trade between Northern Ireland and the Republic of Ireland was targeted. To access this financial resource the venture contacted a well-known Northern Irish researcher, Professor Darren Boyle, with whom Grant was loosely acquainted. His area of specialty was in biocatalysts as opposed to chemical catalysts. From the development of this relationship and success in gaining the targeted grant they decided to jointly apply for a larger EU knowledge transfer grant and in late 2005 received approval for an additional €600,000. The relationship also led to the inclusion of Boyle's products into the firm, who had a range of biocatalysts ready for commercial sale, which was important to Levodex as their own product line lingered as a very limited set of samples to provide to the market. Products that were market ready could provide vital short-term revenue as well as fill gaps in the plans presented for future rounds of financing.

At this point, instead of pursuing further small research projects with large companies, the entrepreneurs decided to focus once again on the search for large financial investment. The business plan was redrafted to focus more on Levodex's technology and to include successful grant applications and the small number of commercial contracts and relationships the firm

had developed. Aiming to raise another €1 million from VC Fund 3, the entrepreneurs brought in another close connection of Egan's to help. However, problems soon arose in the dealings with VC Fund 3, which revolved around the valuation of the firm as well as pressure to find international investment partners. Keenan admitted:

*"... it was tortuous ... they wanted a foreign VC to come in and they had us on a wild goose chase looking for this million, when it was patently obvious to everyone that no foreign VC would be interested in making an investment of a million. So that delayed us six or seven months..." (25/11/05)*

In Egan's opinion, a central reason that VC Fund 3 made them search for an international investor was because *"...they wanted to have linkages with foreign VCs and [Levodex] was a nice thing to hang their own personal linkages around."* (06/06/06). After yet another round of lengthy and ultimately fruitless negotiations Levodex resolved to reorient their funding strategy away from VCs toward pursuing private investors. So as this period ends Levodex had started to address the key issues of developing their technology, added to their virtually non-existent product line, established a number of commercial relationships, and finally decided to seek a more varied mix of funding sources including public grants and private investment.

### **Developing the Product Line (November 2005-July 2006)**

During this period Levodex focused on further developing its technology and commercial relationships. First, Keenan and Egan endeavored to raise financial capital through a government backed scheme, which allowed private investors invest up to a certain amount into companies in targeted areas of the economy in return for tax incentives. Though they

widely advertised their firm as an investment opportunity, most of the money that Levodex eventually accessed was through their own contacts, with thirteen of the twenty final investors being friends and associates of Egan's.

At this stage, Levodex started to put in place a manufacturing facility to be able to produce at scale when required. In November 2005, the firm signed an initial agreement with a close associate and long-term friend of Egan's to find a manufacturing partner. In early 2006 Keenan travelled to China to visit one of the companies this friend promoted and finally signed a production agreement to secure manufacturing services for Levodex. The same connection also helped Levodex develop new sales leads for a catalyst screening service. Through the use of their sales director Cummins' connections they were also invited to pitch to a large Korean firm for a major contract. They further sold a small sample of their biocatalysts to a connection of Keenan's in a major pharmaceutical firm and negotiated a small contract with another. Levodex was now assessing alternative routes to market and distribution channels and soon signed a supply agreement with a chemical brokering firm Keenan had made contact with at an industry conference.

Despite these promising commercial developments Keenan and Egan were uncertain of the value that Cummins brought to the venture - had he simply relied too heavily on his own network of contacts without searching for potential new clients?

*"Barney utilizes his contact base but... I think we also need somebody who is more proactive in actually creating a new contact base and actually going out selling to people he doesn't know as well." (Keenan 07/05/06)*

Egan and Keenan knew they had to be careful with how they dealt with Cummins as he was a close personal friend of one of their SAB members and well known in the industry. Cummins

himself saw the problem lying in the underdeveloped nature of Levodex's technology and product line rather than in his sales acumen:

*“So that is what I am saying to Brendan: I can't sell thin air. We need to get these materials made and benchmark them against certain reactions and we need to go to the people we spoke to and show them...” (12/06/06)*

Cummins continued to argue that the firm's product line remained too thin to fully explore all potential commercial relationships, manufacture at scale and supply their distributor. Indeed, the venture still only had eight samples from their proprietary P-process, only one of which was fully optimized. It had now been fully funded for close to two years and still had little to no presence in the market. With both VC investors and private investors onboard and an estimated €1.5 million in revenues for 2006 in their business plan (compared with €47,000 realized in 2005), a more fully developed product line was urgently needed. One of the key issues hindering this development was the lack of commercial experience in the lab. Grant was only able to spend a fraction of his time working for Levodex, and according to Cummins, he was *“...used to handling a research group and that is not is what you have got to have in business” (04/07/06)*. Eventually an industrial chemist, George Frost, was hired to take charge of the laboratory and the development of their commercial technological resources. Frost had over 30 years experience as a senior commercial chemist. He was introduced to the venture by sales director Cummins. Tellingly, Frost was described by Egan as *“... a damn good industrial chemist as distinct from an academic chemist.”(06/06/06)*

Frost took over the running of the laboratory where he tried to create a focus and structure that would most effectively allow them to develop a commercial product line. He tightened procedures in the lab and started a recruitment campaign for experienced industrial chemists. Frost then focused the venture on producing a catalyst known as DiPAMP, one of the few p-

chiral catalysts for which there was a substantial market demand with relatively limited supply because of the difficulty and cost to produce it. Producing this catalyst also allowed showcasing the versatility of Levodex's method and its technological capabilities.

By July 2006, after close to seven years in existence and receiving over €2.5 million in funding from various sources, Levodex had produced what it perceived to be its first viable commercial product at pilot scale. At the time this period ends they were considering how to properly price it and what volumes to produce it in. As their new chief scientist Frost put it, *'that is the reality of it all, we are just ready to start'* (04/07/06).

## **DISCUSSION**

### **Case Summary**

The above case narrative is a rough sketch of the journey that Levodex and its founders travelled between 1999 and 2006. We summarize this case's seven-year development graphically in Figures 1 (for the first two event periods from 1999 to 2004) and 2 (for the third and fourth event periods from 2004 to 2006). We follow Feldman and Quick's (2009) illustration of a resourcing case in public management in dividing the stepping stones of the firm's development into intended, unintended, unrealized and a mix of intended and unintended consequences. By depicting the social resources drawn upon over time and the effects that this social resourcing had on the firm, these Figures demonstrate that Levodex's and its founders' rarely straightforward journey was strongly interrelated with and shaped by the various practice nets the venture intersected with over the course of its development (the three major practice nets making up Levodex's resource context in our case were the scientific, the commercial and the venture capital fields). The Figures also show that while a

good deal of the actors' activities in reaching out to their own and other fields of practice to access and construct resources were deliberate and strategic in nature, many others were more reminiscent of a creative adapting to the ever-shifting goalposts and circumstances that this reaching out brought with it.

====INSERT FIGURES 1 AND 2 ABOUT HERE=====

In the following sections, we will discuss these broad findings in more detail with respect to our research questions and develop a range of propositions on the basis of comparing our case findings with the literatures on network bricolage, social resourcing and social capital. In the process we will demonstrate those aspects of our findings that, through the study's practice perspective, offer novel insights into the use of social resources in entrepreneurship.

### **How do entrepreneurs mobilize and creatively combine social resources at hand?**

In keeping with the literature on network bricolage (Baker et al., 2003), we have conceptualized strong ties as social resources at hand. Our case account has demonstrated that throughout Levodex's journey such social resources at hand were drawn upon heavily and often creatively in helping the budding entrepreneurs engage in new patterns of practice and expedite the commercialization process. Derived mainly from Grant's practice net, relationships to academic scientists were not actually used for scientific advice, but repurposed, for instance to gain access to a campus company program at their University, for advice on how to exploit the perceived opportunity, to understand the importance an SAB may have, and to recruit a future Nobel Prize winner to the SAB. Later on, Grant and Keenan repurposed human 'materials at hand' (Baker et al., 2003) in their field of practice in the shape of two PhD students to develop Levodex's first piece of IP (the P-process), in utilizing

the SAB to reach outside their own scientific circles toward commercial customers and in drawing together a case for North-South funding.

In contrast to what we describe as repurposing of resources at hand, sales director Cummins tapped time and again into his pre-existing commercial network to develop the firm's market reach. Cummins also drew heavily on people who had been instrumental in some of his former entrepreneurial experiences. While at first this resourcing practice led to commercial success for the venture, doubts emerged over time over its limiting the budding firm's commercial reach. Cummins' social resourcing practices are reminiscent of strategies of serial entrepreneurs who rely on a proven formula for success in developing a venture (Westhead, Ucbasaran, & Wright, 2005) and who use the same ties for the same purposes time and again without considering their other potential uses. He resembles those entrepreneurs described by Baker et al. (2003) who keep repeating the same network resourcing patterns even when these practices start proving to be limiting to the company's development.

While Cummins seemed to lack a measure of creativity in his social resourcing practices, the chief scientist Grant suffered from a somewhat different problem. Even though Grant was adept at using his scientific colleagues for various purposes, he failed to reach beyond this scientific community to a more diverse set of ties. By only ever resorting to his scientist friends, Grant remained locked in the practices of his academic networks, which eventually led to being effectively sidelined as chief scientific officer. We could argue that Grant's lack of personal engagement with different resource contexts prevented him from innovating his scientific practices through incorporating different (for instance commercial) perspectives.

From a structural perspective, the phenomenon of lock-in or being 'trapped in one's own net' (Gargiulo & Benassi, 2000) is well established in the social network literature. Adler and

Kwon (2002) for instance suggest that if networks become overembedded, strong ties may lead to parochialism and inertia, and Antcliff et al. (2007) hint at the professional limitations of continued reliance on closed social networks. In the context of entrepreneurship, Portes and Sensenbrenner (1993) describe how some ethnic entrepreneurs ‘suffocate’ under a net of obligations in strong tie networks, and Baker and Nelson (2005) find that if roles and relationships within a community become routinized they can inhibit the development of new firm patterns and subsequent growth. A practice perspective adds to these findings that these dark sides of social resourcing may not so much depend on the structure of one’s networks – whether strong or weak ties dominate – but on whether or not the entrepreneurs in question a) utilize these resources in creative ways; and b) are open and / or exposed to social practices that allow them to innovate, revitalize and change their existing activity patterns with regard to resourcing.

It may be noted that in our case, the two protagonists who seemed most affected by parochialism – Grant and Cummins - were also arguably two of the most strongly embedded ones. Their inertia however did not stem from a burden of obligations or expectations their relationships placed on them; rather, with ample social resources at their disposal and prior success at using them, they may not have seen the immediate need for reaching outside their nets or for changing their social resourcing routines. Schatzki (2002; 2006) conceptualizes change in practice nets as a requisite complement to the stability that these nets provide and argues that change comes forth through the individual performance of and associated deviation from a given practice. This reasoning resonates well with the essence of entrepreneurship as a deviation from the norm. Our case analysis illustrates how valuable such deviation can be when carried out not just in relation to product or market norms, but also in the resource practices that entrepreneurs engage in. We argue that such innovation

may happen through two patterns: creative repurposing of resources, such as Keenan and Grant did at the start of the venture when they mobilized their immediate social environment to gain a level of commercial acumen and access; and infusing the firm with new ideas and practices through personal efforts at engaging with diverse practice nets, such as Keenan did with the commercial field. We propose:

P1a: Entrepreneurs who repurpose their social resources at hand will expedite the early commercialization process and reach to commercial partners more quickly than those who do not.

P1b: Entrepreneurs who engage with diverse practice nets in the early commercialization process will expand a venture's activity and goal sets more quickly than those who do not.

### **How do entrepreneurs familiarize themselves, engage in and maintain an understanding of other practice nets when resource seeking?**

Following on from the argument above that sole reliance on social resources at hand can inhibit firm development, it is common for entrepreneurs to complement their strong tie resourcing practices with the use of weak ties – or rather, in Baker et al.'s (2003) terms, to combine often improvisational network bricolage with more deliberate resource seeking. In the case of Levodex there is ample evidence of protagonists engaging in such purposeful resourcing practices, for example when seeking access to a business school incubation program through a business mentor, when participating in an industry association to gain a new CEO, or when establishing a relationship to a financial consultant to raise private finance. However, weak ties by their very nature contain little or no tissue of trust and have no obvious reciprocity or obligations attached to them; without this glue, these resource ties

may be much more difficult to stabilize, maintain and benefit from (Gargiulo & Benassi, 2000). Knowing how to do this is in itself a social practice. One way that Keenan and Grant stabilized their initially loose connections was through increased interactions and activities that eventually yielded social and material benefits for both parties, for instance when getting to know their Northern Irish colleague through working on smaller funding applications first before extending the relationship to larger applications and finally to the incorporation of IP and products into their firm. Repeated interactions allowed both parties to gain an understanding of their respective nets' social practices, which in turn and over time allowed them to access further resources, such as licensing a product portfolio. It needs noting that it is rarely predictable whether such gradual courting will result in unlocking future resources. In this context, Cummins' refusal to take what he saw as a 'half-baked' product to new customer groups could be read as preventing the venture from tapping into different actors' knowledge and understandings through interacting with them. From a practice perspective, these examples and others illustrated in the case corroborate the argument put forth by Feldman (2004) and Howard-Grenville (2007) that social resources emerge often gradually through learning from experiences of interaction. Trust, reciprocity and resource yields are a consequence of this gradual process over time.

In the preceding section we have argued that a continued reliance on social resources at hand in the entrepreneur's immediate field of practice may lead to inertia and staleness. Extending this argument leads to the question of how and why resource seeking would prevent such inertia. Working with Bourdieu's perspective of habitus, Terjesen and Elam (2009) have argued that the habitus' structural weight conditions individuals to recreate their circumstances and that innovation becomes possible only when either an individual's field or institutional setting or their total (social and cultural) capital changes through a change of

context. Schatzki's perspective of stasis and change as two sides of the practice coin would suggest that while practice innovation can be a strategic aim of entrepreneurs, it may happen much more gradually than suggested by Terjesen and Elam and perhaps resemble a process of osmosis through exposure to a different habitus more than one of sudden transformation.

In our case, this argument is borne out by an analysis of the evolving series of business plans Keenan and colleagues put together. These business plans represented both an outcome and an impetus to developing the company in new directions through engaging with new fields of practice. Business plan 1 for instance was written as part of the campus company program as a first attempt by Keenan to embrace the language, practices and meanings of the commercial field – thus as a consequence of his peripheral experiences with this field. However, in it, Keenan also painted a future of the company that was firmly anchored in this commercial reality and that, additionally, included the influx of venture capital as a central resource to the company. By appropriating its language, that plan thus acted as an invitation to a third field of practice to engage with the nascent firm and exchange resources - and thereby for the future represented in it to potentially become reality. Doganova and Eyquem-Renault (2009, p. 1568) describe material devices such as business plans or models as 'gathering' devices, "for the purpose of producing encounters". In addition to the translational or mediating purpose of a (passive) boundary object (Star & Griesemer, 1989), they see these devices and their users together as performing the collective action of drawing actors into their world. We add that these encounters, as facilitated by the 'social lives' of business plans, can infuse the company with an innovative set of understandings and actions, which in turn can unlock further resources in an evolving context. Taken these arguments together, we postulate:

P2a: The more entrepreneurs interact with different practice nets, the more they will be able to adapt to the understandings of these contexts and draw resources from them.

P2b: The more a new venture's business plans or models are circulated, the more they will draw actors from different practice nets in to contribute to the enterprise through resource exchanges.

### **How do entrepreneurs cope with differences across diverse practice nets?**

Engaging in activities such as planning, building and materializing close interactions with different practice nets requires that social resourcing practices from different contexts are compatible with or at least intelligible to one another. The very nature of practice nets can make this a particular challenge. For Bourdieu (1990), fields are networks of social relations governed by rules. Within a field, practices are shared by those who know how to 'play the game' according to these rules, which is a central issue for social resourcing. Bourdieu also points out that in every field, there are subtle differences in which capitals convey power, and in how actors attain these capitals.

At the beginning of the case the two actors Keenan and Grant were firmly situated in the academic scientific field and many of their subsequent activities in relation to social resourcing were guided by understandings shared in this field. While at least Keenan was eager to transcend this field and become a skillful actor in the commercial realm in order to access the resources that environment may hold, he and Grant repeatedly needed help from actors whose social practices and understandings were truly immersed in the commercial field. This was most notable in the recruiting of their second CEO Egan who, through his connections and more importantly through his knowledge of how to use them best, opened up a variety of commercial relationships that seemed inaccessible to Levodex before his arrival. Equally, it took the recruitment of a commercial scientist to reorient the venture's scientific

practices after almost seven years of existence toward a truly commercial perspective. It seems that for Keenan and Grant, peripherally engaging in the commercial field did neither fully translate to being immersed in this field's practices nor to being able to fully benefit from its resources. It took 'enmeshing' individuals from that particular field with the company to help their venture competently play on the commercial pitch.

While the commercial practice field seemed to have been successfully unlocked through the employment of individuals fully conversant with commercial understandings, the differences in understandings of social resourcing were proving more obstinate between the tightly knit VC field and that of our scientific entrepreneurs. Callagher (2012) recently described the often tortuous search practices by biotech firms in the VC community. In our case, these search practices constituted one of the major social resourcing activities in the first two periods of the venture's existence. Keenan and Grant saw venture finance as the key to most other resources needed, and they went to extraordinary lengths to mould their business plans – and indeed their company's future – to what they perceived as the venture capitalists' rules and requirements to access this resource. Again, it is necessary to highlight the business plan's role as 'ostensive' (Feldman & Pentland, 2003), aimed at unlocking resources by projecting a future VCs may want to invest in, and so acting as a mirror for the VCs' own understandings of a scientific venture worthy of investment. In other instances, boundary spanners such as the state agency Enterprise Ireland were employed by or engaged with the company to help both in translating the VCs' requirements to the enterprise and in easing the perceptions of risk for VCs.

Despite these boundary spanning mechanisms working well at a structural level, Keenan and Grant's dealings with the VCs make it obvious just how difficult it is to translate social practices, meanings, and capital from one field to the next. While for instance in academic

circles the prestige of the venture's SAB easily trades against other valuables such as legitimacy, for VCs its symbolic value was not fungible enough to be traded against the only currency that seemed to convey status in their world: return on investment. Similarly, the aspirations the VCs had with the young enterprise, such as establishing links to big international funds and thus expanding their own social capital, were at odds with the two scientists' objectives for the company. Boundary spanning organizations and individuals also brought with them their own practices, objectives and understandings, which were not always easily folded into those of the venture. This was the case, for instance, when the connections and obligations of the negotiator on behalf of Levodex to VC Fund 3 caused suspicion about this individual's loyalties and turned into a key point of contention in Levodex's negotiations with this VC. Moreover, and corroborating Mosey and Wright (2007), it seems that Keenan's and Grant's continued reliance on boundary spanning organizations and individuals also meant that experiences with the VCs never became fully embedded into the resourcing practices of their firm – to the very end, the VCs appeared as somewhat of a black spot of rules and meanings to the two entrepreneurs. We postulate:

P3: Boundary spanning actors or devices facilitate structural bridging between different practice nets, but prolonged reliance on such mechanisms may prevent the personal experience needed for translation of practices, meanings, and capital from one practice net to another.

### **How deliberate or reflective is entrepreneurs' use of social practices?**

Schatzki (2005) defines organizations as practice meshes or entities infused with practices from various provenances that are made to fit together meaningfully. Social resourcing, as we

described it through our case, plays a central part in shaping an organizational practice mesh. The first recognizable practice as part of Levodex's emerging practice mesh was its founding in 1999, which symbolically moved a set of scientific activities from the academic into the commercial practice context. And perhaps this founding was also the first and last 'heroic' entrepreneurial act that Keenan and Grant engaged in, if we take this in Garud and Karnøe's (2003) sense of individuals being in full charge of their entrepreneurial destiny. As Figures 1 and 2 graphically depict, after this, Keenan's and Grant's entrepreneurial activities became "involved" (ibid., p. 279) in a distributed and shifting resource context that shaped and was in turn shaped by their own activities, for instance when Keenan's decision to start the campus commercialization course provided them with a mentor who introduced them to the director of the incubation house, and the involvement with this incubation space in turn brought them their first CEO, whose actions then opened some doors but closed just as many. Baker and Nelson (2005) have depicted resource environments as socially constructed in that entrepreneurs have idiosyncratic ways of interpreting and enacting these environments. Feldman and Quick (2009) also highlighted the 'energizing' quality of resources, which can be used for different purposes in shaping a range of alternative contexts. In depicting the development of the firm as engaged in and enacting its social contexts, Figures 1 and 2 show how the entrepreneurs' activities caused something like ripple effects across their firm's resource contexts, which often reverberated back into their own company to shape future activities. If we describe these ripple effects as 'practice waves' then Keenan and Grant never seemed fully certain – nor presumably could they have been - as to where the waves of social resourcing would lead to, and exactly what resources would flow back to them.

For instance, every time Keenan and Grant tried to shape the venture toward perceived VC requirements in preparation for VC meetings – as when searching for IP in Grant's lab - they

unlocked alternative futures and a range of heretofore unseen resources for the company. In this sense, while factually correct, to say that Keenan and Grant failed in realizing their strategic plans to access certain resources, as with the ever-elusive big VC investment, only tells part of this venture's story. The other half of the story, which we focused upon in this Discussion, shows how entrepreneurial imagination, practical doings and serendipity combined to form a venture's practice mesh by opening up different resource contexts in often surprising ways over time. While strategizing, our entrepreneurs' resourcing activities were not 'heroic' in the sense that although insightful and even imaginative (Keating & Mcloughlin, 2010), they could never fully control nor anticipate what outcomes may result. The heroic act of these two entrepreneurs was that they were brave enough to ride out, to keep with the analogy, these practice waves.

Johannisson's (2011) 'organizing context' in its double meaning can be a very helpful notion to demonstrate how the venture went through recursive cycles of creatively adapting to the needs of a perceived organizational context which held much-needed resources, while (often unexpectedly) unlocking other resources through these adaptations, or 'organizing' their context. Combining our empirical findings with extant literature, we propose:

P4a: Perceiving resources in the resource environment and acting toward them shapes an enterprise and its resource contexts simultaneously.

P4b: Entrepreneurs cannot fully envision or plan their venture's future resource contexts before they take shape.

In sum, while our case narrative confirmed the longstanding knowledge in the entrepreneurial literature of just how important social resources are for budding entrepreneurs, it also

highlighted some important and heretofore neglected issues in their use. On the one hand, while useful as social resource at hand, overreliance on an actor's immediate resource context can over time lead to entrepreneurial resourcing practices becoming stale. On the other, if these social resources at hand are complemented by more deliberate acts of resource seeking, the budding entrepreneur faces issues around stabilizing their relationships to those wider resource contexts enough to gain a deep insight into the different practices nets' understandings and 'enmesh' these understandings in the venture's practice bundle. Overall, our investigation as the organization happened, so to speak, indicated that many of our entrepreneurs' activities took them onto paths that could have been neither truly anticipated nor strategized in advance. We have used the term 'practice wave' to describe the changing flows of practice in which a venture takes shape when entrepreneurs engage in social resourcing. In physics, a wave is a disturbance or oscillation that travels through space and time, accompanied by a transfer of energy. We find this an apt image to describe the longitudinal development of Levodex and its founders, as it sought and exchanged resources with its social contexts in ever-changing currents and reflections over time.

## **CONCLUSIONS**

Adopting Schatzki's practice perspective (2002; 2005; 2006) to analyze the case of life-science venture Levodex allowed us to 1) identify the social resourcing practices that constituted Levodex as an organization over time; 2) discover how neighboring practice bundles were tied into this organization over time; and 3) analyze how and where these practice bundles competed or cohered, particularly in the understandings attached to certain practices of social resourcing. Tracing these practices over a seven year period, as the organization 'happened' (Schatzki, 2006), further allowed us to 4) observe how some

resourcing practices and contexts persisted, while others evolved and changed, in continuous and mutual adaptation between the firm and its context.

Conceptually, our contribution lies in adding to the understanding of entrepreneurial resourcing as a practice and of social resources as something that emerges when entrepreneurs engage in these practices. With Schatzki (2006), we have described the new venture as an evolving practice mesh. The act of accessing resources always happens as situated in this practice mesh. This means that the very act of reaching out and engaging in social resourcing changes this mesh in which the entrepreneurial activity is embedded, and that the entrepreneur creatively adapts to an ever-evolving web of interconnected practices within and without their venture. Conceptually, our account of social resourcing practices is broadly in line with what Fisher (2012) recently labeled ‘emergent theoretical perspectives’ that consider the entrepreneurial future as unknowable and resource contexts as socially constructed. We add to a growing body of empirical evidence emanating from these perspectives that points toward some of the weaknesses of the ‘causal’ model of entrepreneurship and highlights just how little entrepreneurs can anticipate what will emerge from their actions and how this emergence will shape their venture into the future.

Some pointers for future inquiry emerge from this research that have not been addressed elsewhere. First, while we have focused our investigation on practices through the activities of our entrepreneurs, an important part of an entrepreneur’s know-how consists of how they make sense out of and account for these actions (Corradi et al., 2010). Second, and related to an individual’s accounting of their actions, is the notion that practices are embodied, which signals that they involve an individual’s whole being, including their emotions. Indeed, an important aspect of Schatzki’s practice theory is affectivity, or ‘how things matter’ (Schatzki,

2002, p. 60). While we could not develop these aspects of a practice-based account in more detail in the present article, we would encourage future research to explore the nexus between actions, accountability, and affectivity, thus taking full account of the personhood that a practice perspective implies. Finally, in analyzing our case, we found the structural concepts of strong and weak tie networks somewhat limited in analyzing what entrepreneurs do when trying to resource their venture as compared with Baker et al.'s (2003) notions of resources at hand and deliberate resource seeking. Future investigations may need to explore the interrelationship between and respective importance of structural matters and a focus on what entrepreneurs do.

We have used the image of 'riding the practice waves' to illustrate our perspective on social resourcing. For practitioners, this analogy may help visualize the social practice nets in which they move and act. Figuratively speaking, there are certain times, places and ways that one can catch and ride a wave. Successful entrepreneurs know where to look for waves, know what a good potential wave looks like (before it has passed them) and know how to catch the wave – but riding it will then depend on the interplay of their skills, the dynamic social and material context, and serendipity. They develop this know how through a mixture of imitating or emulating others' resourcing practices (the practices of a community) and through personal trial and error. This analogy may illustrate that while not fully predictable, tapping into the appropriate social resources at the appropriate time (and manner) can build momentum in a certain direction. But entrepreneurs will need to learn from others, including from outside their own communities, and creatively combine different ways of doing things, to be able to embrace the momentum and rise to the top. Social resourcing practices, as we have pointed out, are always a mixture of routine activities and skillful deviation from these routines.

For policy makers, our case highlights the significance of bridging organizations that bring together, connect and translate between practice nets – such as in our case the state agency Enterprise Ireland did between the scientific community and the financial one. Utilizing a practice perspective allowed us point out that such boundary organizations bring with them their own understandings, goals, and practices, and that bringing the venture in line with these can create additional strain on a young enterprise that has to adapt to many different routines and understandings already. It also permitted us to highlight the potential limitations of entrepreneurs’ prolonged reliance on such boundary spanning mechanisms instead of gaining personal ‘embodied’ experience with relevant practice nets, which they will need to skillfully and creatively combine disparate practices and meanings for entrepreneurial innovation.

We acknowledge the limitations of relying on a single, albeit in-depth and longitudinal, case for analytical generalization. Just as we have based our investigations on prior insights in the organizational and entrepreneurship literature into issues such as bricolage, resourcing and distributed agency, we hope that further work would test our propositions against different empirical contexts and add to the emerging theoretical framework on social resourcing in entrepreneurship. Overall, we feel that a deep understanding of ‘entrepreneuring’ as a set of situated practices, to take up Steyaert’s (2007) offer of a conceptual umbrella, has only begun. We hope that our work can serve as a fresh example of what an exploration of these practices may resemble.

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**Table 1: List of Sources**

<b>Source</b>	<b>Date and/or Number of sources</b>
Formal Interviews	30 (January 2002- June 2006)
Business Plans	4 plans between 2001-2005
E-mails for Member Check	13 (December 2006-April 2007)
Visits and Informal Meetings	Weekly from January 2002- May 2004 Monthly from June 2004-June 2006
Company Presentations	11 in total (9 to venture capitalists, 2 to State Agencies), February 2002-May 2006
Patent and Supply Catalogues Including Levodex	2 (2006 Ireland/UK)
Attendance at Industry Networking Events	6 full days (2001-2005)
FDA Policy Statement	1
Chiral Industry Reports	2 (2000, 2003)
Government/State Agency Reports	12
Press Coverage/PR coverage of Company	9
Publications/Documents for Grant Agencies	2

**Table 2: List of Actors and organizations (pseudonyms used where appropriate)**

<b>Central Actors</b>	<b>Organization(s)</b>	<b>Role/Additional Note</b>
Dr Barry Keenan	Levodex	Junior scientist, initial promoter
Dr. David Grant	Levodex	Senior scientist, initial promoter
Paul Cranford	Levodex	First CEO, left 2003
Brendan Egan	Levodex	Second CEO, joined 2004-
Prof Darren Boyle	Northern Irish University	Levodex SAB (2005-) and grant partner
Barney Cummins	Levodex	Levodex Sales Director (2005- )
George Frost	Levodex	Levodex Lab Director (2006- )
James Kennedy	Independent business consultant	Help with business proposition, finance, negotiation with VCs (2003-2004)