

Bridging structural holes through encroaching processes to gain in social capital. The example of a polar expedition as an extreme situation management¹.

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Abstract:

According to the network theory of social capital, to gain competitive advantages actors build relationships across structural holes. But how does this process occur? This research is embedded in the fields of social networks and organizational change. The relationship between structural holes and encroaching processes, which is a particular type of organizational change dealing with interdependency, is explored. We propose the idea that encroaching processes provide an explanation for how structural holes are bridged in social networks. The analysis presents an example of the workings of this mechanism in the context of management of an extreme situation. This illustration captures the behavior of an actor building bridge relationships across structural holes. Contributions are a better understanding of structural holes, organizational change, and competition between actors.

Keywords:

organizational change; encroachment; social networks theory; extreme situation management.

¹ Earlier versions of this paper have been presented at both French and International conferences, and we would like to thank the organizers and all the session participants for constructive comments.

« To clarify the meaning of a concept can be considered so as an operation of translation, as an operation of change from abstract to concrete.»

William James (1907)

INTRODUCTION

Individuals typically – though not necessarily – populate organizations. Individuals typically – though not necessarily – develop relationships with other individuals. These relationships, or links, are generically known as social networks. This paper is embedded in the dual fields of social capital and organizational change. We explore the dynamic relationship between social capital and encroaching processes – a particular type of organizational change. Generally, the field of social capital deals with the “collective value of all social networks and the inclinations that arise from these networks to do things for each other,” (Putnam 2000: 24). These networks are structural representations of interdependencies. A social network consists of an individual (ego) and all of his contacts. These contacts exist within ego’s own organization (cluster) or may span clusters. Much of the early investigation in this area viewed social capital as a resource (Lin 1992; Lai, Lin, and Leung 1998). While most researchers have been interested in the links that exist, Ron Burt (1992 et. seq.) has been interested in the links that do not exist. Burt calls these non-extant networks “structural holes.” Structural holes – far from being viewed as problems – are seen as opportunities. When structural holes exist, at the most detailed level of analysis, we can observe that task processes have been changed – encroaching processes have targeted them. Encroaching describes a set of processes that are emerging as an area of research in organizational change (Marker 2000, 2002). Encroaching processes are responsible for organizational change due to their capacity to target structural interdependencies and changing the arrangement of task processes.

As noted above, this paper initiates a dialog between two research fields, the micro-processes of organizational change, i.e., encroaching processes (Pettigrew 1990; Mackenzie 2000; Marker 2000, 2002), and the one of social capital mobilization (Granovetter 1973, 1985, 1995; Burt 1992, 1993, 2000; Lecoutre 2006; Lecoutre et Lièvre 2008). Our research perspective follows the pragmatic method proposed by William James (1979). According to James, concretization allows

to clarify conceptual and abstract notions. Many authors have promoted extreme situations as fruitful environments for theory development; to this end, we have chosen the field of extreme situation management (Pfeffer and Salancik 1974; Pettigrew 1990; Rix et Lièvre 2008; Lièvre et Gautier 2009). More specifically, to better position these two research perspectives, our study is set in the background of polar expeditions. In this type of context, the actors are engaged in situations that require them to rapidly develop their operating logics. This allows the researchers clearer access to the phenomena involved.

Currently, we are able to determine the social network of a particular ego at Time A, and then again at Time B. However, at this point, what we do not know the mechanisms of this social network change. The thesis of this paper is: encroaching processes provide an explanation for how structural holes are bridged (links are made) in social networks. The argument of the paper takes the following form: all things being equal, individuals prefer more social capital to less; to increase social capital, individuals bridge structural holes; consequently, individuals engage in encroaching processes to bridge structural holes.

To begin our presentation we review the main points of social capital and structural holes. This discussion is followed by a presentation of encroaching processes of organizational change. We then make the argument for how encroaching processes provide one explanation for how structural holes are bridged. In this paper, we will present an example of the workings of this mechanism in the context of management in an extreme situation.

SOCIAL CAPITAL, A WIDE RANGE OF CONCEPTIONS AND USES

Following foundational works such as Bourdieu's (1980, 1986), Bourdieu and Wacquant (1992), Coleman (1990), Burt (1992), and Lin (2001), the concept of social capital has been used extensively. Various recent reviews try to order and clarify the debate (Sandefur & Laumann 1998; Portes 1998; Lin 2001; Adler & Kwon 2002; Borgatti & Foster 2003). Research streams are numerous and in a wide variety of themes in our field. Topics such as career success and mobility in the internal and external labor markets (Granovetter 1973, 1974; Flap 1999; Lecoutre 2006; Burt 1992, 2000; Leana 1999; Seibert, Kraimer & Liden 2001), or inter-organizational exchanges and R&D team performance (Kreiner & Schultz 1993; Hansen 1999; Bouty 2000).

The detailed reviews of Adler and Kwon (2002) followed by Borgatti and Foster (2003) add analyses of recruitment and human resources practices, power, leadership phenomena, individual performance and creativity, innovation enticements and intellectual capital creation (Nahapiet & Ghoshal 1998), in addition to entrepreneurship and supplier-customer relationships in the markets. Some studies emphasize the negative features of social capital, highlighting the associated risk of heavy closure or manipulation (Uzzi 1997). Much of this research details the organizational or individual positive outcomes related to the development of goodwill, or the resources held by the social relationships, or associated with the filling of a particular position in social network. The definitions of social capital are as wide and numerous as the researchers engaged in the discussion. They include such definitions as the mutual willingness of individuals and groups toward each other (Adler & Kwon 2002; Putnam 1995, 2000), or the social “quality” of the members of the network you can mobilize for successful actions (Lin 2001), or even the value of non redundant ties for the individual network (Burt 1992).

Consequently, for Bourdieu, social capital is composed of “the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition — or in other words to membership of a group,” (1986: 248), and more precisely, “... the sum of capitals and power such a network allows to mobilize,” (Bourdieu & Wacquant 1992:95). Coleman (1990) clearly has a similar, albeit broader, conception. For him, social capital is all that facilitates “the achievement of goals that could not be achieved in its (social capital’s) absence or could only be achieved at a higher cost” (1990: 304). Relationships between individuals form social structures that are particular social and reticular layouts in which social capital appears. They always collectively involve a group of persons. It is embedded in the structure of the relationships between individuals, and “...is defined by its function. It is not a single entity, but a variety of different entities having two characteristics in common: they all consist of some aspects of a social structure, and they facilitate certain actions of individuals who are within the structure,” (Coleman 1990: 302). In the end, the value of social capital is specific at one time for a particular person within a group and for particular actions. Coleman’s conception is broad; more precise studies emphasize the relational definition of social capital (Borgatti & Foster 2003).

According to Granovetter (1973, 1995), individual actions influence the shape of a relational network and the strength of its links. The extended network of persons weakly tied to ego (the entity at the center of a particular social network) and located in far clusters, i.e. weak ties bridging ego's cluster with other clusters, allows him to mobilize persons, resources, or information he does not usually access. From that starting point, the conception of social capital emphasized on one hand what circulates in the networks (values, local norms, mutual expectations, information, material, or social support, power, control, etc.). i.e.: This is what is set in motion by individual actions. On the other hand the other concept emphasizes the shape of the networks, their topology, or their structure, that generate social capital. The first approach has been followed by researchers such as Lin (1982, 2001). He states that social capital leading to successful actions relies on the social status of ego's contacts: the higher the relative position of ego's contact in a social structure, the better the social resources ego can access and therefore improving his likelihood of success. The second approach, and the one that is used in this investigation, is presented by Burt. Burt (1992, 2000) defended a strictly relational concept of social capital based on the identification of "holes" in the structure of a network and the strategic behaviors of actors trying to link these clusters that are not connected. We discuss Burt's approach in the following section.

STRUCTURAL HOLES, A NETWORK CONCEPTION OF SOCIAL CAPITAL

Burt (1992, 2000) systematized the idea of discontinuity in the social structure and the relative strength of links according to their position within the structure. Granovetter (1973) built his argument on the natural tendency of strong ties to be transitive, of social groups to develop closure. A weak tie entitling someone to jump outside his usual network establishes a bridge upon two unconnected clusters within social structures. In contrast, Burt's point of view states that a strategic actor can quite intentionally spend time and energy to create and maintain a link between two social circles. For Burt, it is the lack of ties between members of a particular network that provides advantages and constitutes one's social capital. For Burt, the decisive characteristic of a link bridging over a hole in the social structure is not its strength, but the fact that it is non redundant, that is the link created by ego is – relatively – the only one connecting separated clusters. Strategically, it is irrelevant for ego to keep up another link with the same cluster. Let us take three individuals, ego, A and B. If the contacts of A and B are the same, A

and B will give access to the same information held by these contacts. In this case, one of the two contacts is redundant and it's useless keeping it for ego: he would gain advantage to break one of the two links and to allot energy and time thus released to develop a new and non redundant relationship located in a group worth of interest for him.

Burt applied these principles to the career of high level managers in a large US firm, in a strongly competitive environment within which each one maintains a strategic position and relationships providing relative advantages. These actors deal instrumentally with their relational network to better achieve their professional activities (Burt 1992). For them, the absence of ties (structural holes) represented entrepreneurial opportunities to become broker controlling information flows and the coordination of actions between the actors located on each side of this hole (Burt 1993). The career inequalities among directors result thus from contextual differences, that is from a different structural position, allowing them to better identify the opportunities: those having numerous structural holes in their network are always in a best position to manage their actions. Actors have interests situating themselves between two unconnected clusters, developing thus, according to Burt (1993) a “network entrepreneur” strategy. Last point, from the organizational point of view, Burt's approach provides a way, relying on the strategic abilities of the actors, to understand the evolution and transformation of the network structure.

So, identifying and occupying structural holes is strategic process that had lead to previous studies, in the line of Burt. But how does this process occur? In the following section, we present an emerging theory of micro-processes of organizational change, i.e., encroaching processes. This developing theory provides an explanation for how structural holes are bridged where strategically beneficial or increased if strategically desirable.

ORGANIZATIONAL CHANGE

Organizational change remains one of the most important issues in management research. How organizational work is envisioned, rationalized, and structured has a direct effect on an organization's ability to effectively and efficiently fulfill its mission. The enormity of the research in organizational change has compelled the production of many extensive reviews (Sashkin and Burke 1987; Woodman 1989; Pasmore and Fagans 1992; Armenakis and Bedeian

1999). These reviews synthesize categories of change into four research themes: (1) content issues, (2) contextual issues (3) process issues, and (4) outcome (i.e., affective and behavioral) issues. These themes are encapsulated in the two focal questions for study in organization change proposed by Van de Ven and Huber (1990: 213):

1. What are the antecedents or consequences of changes in organizational forms or administrative practices?
2. How does an organizational change emerge, develop, grow or terminate over time?

The first question is dealt with in the planned organizational change - organizational development literature. The second question deals with process issues in organizational change. Since this paper is concerned with the micro-processes of organizational change (and social capital), we will set the first issue aside and proceed directly to the second research theme.

WHAT IS ORGANIZATIONAL CHANGE?

Organizational change at its most basic level occurs at the task process level (Mackenzie 1986). Task process change is the alteration of any part of a set of task processes, roles, or positions from time 1 to time 2 (Mackenzie 1976). To illustrate, let T represent a set of task processes, ($T = t_a, t_b, \dots t_m$). Table 1 reveals the change in task processes from time₁ to time₂.

Table 1. Change in Task Process Matrix

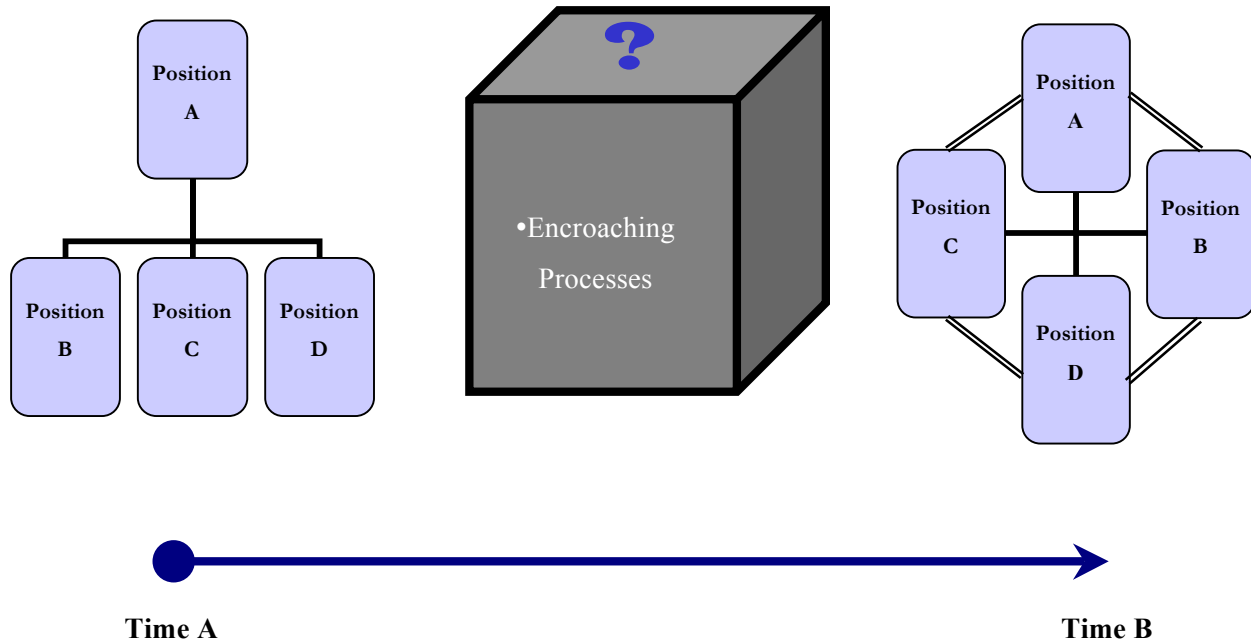
	t_a	t_b	t_c	t_d
time ₁	1	1	1	0
time ₂	1	1	0	1

During time₁, the set of task process T_1 contains t_a , t_b , and t_c . But in time₂, the set of task processes has changed to T_2 with t_c eliminated and t_d added. There has been a change in the set of task processes and thus a change in the organizational structure; therefore, organizational change has occurred.

PROCESS ISSUES IN ORGANIZATIONAL CHANGE

Figure 1 presents the fundamental question in organizational research: what are the microprocesses contained in the black box of organizational change?

Figure 1.
Fundamental Question, The Black Box of Organizational Change



The “Black Box” of organizational change is a representation of all the micro-processes of organizational change. Many have commented that research on the process of change is seriously deficient (Pettigrew 1990; Armenakis and Bedeian 1999; Pettigrew et al. 2001). Fortunately, there have been several notable efforts aimed at understanding change processes. Van de Ven and Poole (1995) developed a typology for describing the impact of change processes on the development of organizations across time. In this work, they utilized four types of process theories (i.e., biological, evolutionary, teleological, and dialectic) to explain how and why change unfolds. They describe “motors” in each process as the mechanism for change. However, they fail to describe how the motors work.

Weick and Quinn (1999) contributed to the research on the process of change. In this work they characterized the components of change. Their effort provides a distinction between continuous

change and episodic change. This distinction is influenced by the chosen timeframe of analysis and the level of observation. Weick and Quinn (1999) contribute a classification of types of change rather than a theory for the process by which organizational change occurs.

Kurt Lewin with his field theory (1951) provided the conceptual metaphor for much of the research on organizational change. Lewin's (1951) force field analysis of change developed an understanding of the forces for change and the forces of resistance to change. Although the theory is more than fifty years old, researchers have yet to agree on how to define either what comprises these "forces" for change or how to measure them operationally.

The research reported here is situated in the area of the processes of organizational change (the second focal point of organizational change research identified by Van de Ven and Huber); in fact, we are concerned with understanding the basic components - the micro-processes - of organizational change (contained in the "Black Box"). It is reported here that encroaching is one of these micro-processes.

DESCRIPTION OF ENCROACHING PROCESSES

Encroaching is a foray by individuals or units (the encroacher) into the boundaries of another individual or unit (the encroachee) (Marker 2000, 2002). The process of encroaching occurs for many reasons and may originate from inside an organization or from outside the targeted entity. An example of encroaching from inside the organization is the addition or elimination of tasks or responsibilities. There are many encroaching processes originating from outside the organization such as the imposition of government regulations, requests for additional documents from financial institutions, or a customer's demands for special treatment. Children negotiating their way around a playground or in a water line and adults driving on city streets have experienced this issue. Everyone has familiarity with the process of encroaching. Although ordinary, encroaching is ubiquitous, appearing at every level of social life.

Six components comprise the machinery of encroachments: 1) the domain – the venue where the change occurred; 2) the encroacher – the entity originating the change; 3) the encroachee – the entity that is accountable for the task process being changed; 4) the target – the subject of the

change; 5) the preemptor – the entity with authority to quash an encroachment; and 6) the preemptor network – the structure of preemptor authority.

There is a difference between encroaching processes and encroachments. Encroaching describes a process that may result in an encroachment. There are three necessary conditions for an encroachment. An encroachment has occurred when: 1) An encroaching process is initiated; 2) The process produces a change; and 3) The encroachee recognizes the change.

Encroaching may occur as a single event or incorporated in a series of events. In order for an encroaching episode to occur, the encroacher must change part of the set of processes of the target. That which is changed is the domain of the encroaching process. For the episode to become an encroachment, the encroaching process must be recognized by the encroachee. Thus, for an encroaching process to become an encroachment the process must result in change and, most of all, the target must recognize the change. This paper is not concerned with determining whether or not an encroaching process has risen to the level of an encroachment. Thus, we will refer to the phenomena in their generic form as encroaching processes.

Encroachees are entities that are accountable for the targets of encroaching processes. The set of *targets of encroachments* are task processes, roles, positions, and resources. A task process is a time dependent series of events ruled by a process framework (Mackenzie 2000). Roles are the specific set of task processes an individual or unit undertakes. A position is the formal arrangement of various roles. A position may possess multiple roles. Likewise, roles might traverse several positions. Resources are those items brought to bear to accomplish these tasks. Structural holes may be bridged by encroaching processes targeted at any of these in the set.

Encroachers are entities that initiate encroaching processes. Some types of encroachers that could initiate encroaching processes could be task processes, individuals, units, or organizations. Since it is individuals that seek to bridge structural holes, in this research, we focus on individuals as the initiators of encroaching processes and encroachments.

Encroachers often have the option of selecting the domain in which an encroaching episode takes place. Whether observable or not, some authority presides over every domain. Entities with authority possess official power to enforce decisions. Power is the control of interdependence uncertainty. Consequently, authority is the official ability to control interdependence uncertainty. This leads to the third set of entities in encroaching episodes: preemptors. *Preemptors* are entities with the authority to end an encroaching episode. A preemptor could be a manager with supervisory authority or a preemptor could be a process (e.g., a state or federal regulation). Preemptive authority does not always have to be exercised. A preemptor could decide to allow an encroaching process to proceed without interruption. Additionally, it is possible for a preemptor to be ignorant of an encroaching process or not recognize an encroaching process. In a domain with multiple preemptors, the preemptors form a preemptor network. Not all preemptors are equal; certain preemptors have more authority than others. Accordingly, the *preemptor network* is the structure of preemptor relationships. This is a strict authority network – those with authority to overrule another preemptor sit higher in the preemptor network.

Each set of preemptors possesses different preemptive authority. In the preemptor network, a directly related set of preemptors is called a preemptive tree. A preemptive tree is a hierarchical arrangement that represents the direct lines of authority. Each entity in a direct line of authority resides at a certain level. When encroachers initiate encroaching processes, they select a preemptive tree and a level. Encroachees might respond to encroaching processes by becoming an encroacher. When the response to encroachment is an appeal to a preemptive authority in the same direct line of authority but above the current preemptive authority, the encroachee (now an encroacher) is said to be jumping levels. If a response to an encroaching episode is to appeal to a preemptive authority in a different tree, the encroacher is said to be jumping trees.

When an encroachee responds to an encroachment by moving to another set of preemptors, that encroachee (now the encroacher) is said to be jumping trees. When an encroacher jumps trees and begins at the lowest preemptor level available on that tree, the encroacher only jumped trees but did not jump levels. If an encroacher jumps trees and selects a preemptor that is not the lowest available on that tree, the encroacher is said to have jumped trees and jumped levels. An example in industry of jumping trees but not jumping levels is an encroachment that takes place

in the regional marketing department and the encroachee responds by initiating an encroaching process in the regional production department. Jumping trees and jumping levels occurs when the encroachee responds to an encroachment originating in the area marketing department by initiating an encroaching process in the regional production department. Encroachers would engage in jumping trees and jumping levels in order to take advantage of a particular preemptive authority.

Encroaching processes and interdependence are vitally linked: encroaching cannot exist in non-interdependent environments. The existence of an encroaching process exposes changes in interdependence. It is supposed that encroachments often reveal interdependencies that had been unknown.

Encroaching event is the general term used for both encroaching processes and encroachment episodes. Each encroaching event commences with the initiation of an encroaching process and ends with either a response to the encroachment or satisfaction by encroachee in an encroaching process. In order for an encroaching event to occur, the encroacher must effect a change in some part of the set of task processes of the target. Encroaching processes may be single events or repeated as a series of events. Each encroaching process that becomes an encroachment is an encroaching episode. An encroaching episode is the cycle of encroaching and responding. For the event to become an encroachment, the encroaching process must be perceived by the encroachee.

JAMES AND CLARIFYING CONCEPTS THROUGH CONCRETIZATION

The method for clarifying the concepts through concretization proposed in 1907 by William James (1979) is not a new idea. As he says it himself, this method has been used by Aristotle, and then supported by philosophers as Dewey and Schiller. He mentions that its role has just been to formalize it and to define it as a pragmatic method. James's idea is to rely on concrete situations to clarify the conceptual debates, as concretization allows them to be thoroughly described. When forcing us to express concepts in concrete situations, we clarify them while describing them. In the management field, we refer these concrete situations to the effective course of human action in situations. In so doing, acceding to this level of reality – this ontology – becomes a crucial

methodological question. This is what for example Garfinkel (1967), Suchman (1987), Hutchins (1995) or Weick (2001) call the register of practices or of activity. These authors have slightly different positions, but they share a common interest in investigating the deep and fundamental question of how people act in concrete situations.

We propose to rely on the concrete case of how social networks have been invoked in the course of a polar expedition. We do this to clarify the position of encroachment with respect to the action of using a social capital. The purpose of this expedition is a through-route expedition across the Spitzberg Island. Now that we have established the elements of social capital, encroaching processes, and the value of concretizing theoretical conceptions, let us turn to the situation where we find their interaction.

THE SETTING

The choice of polar expeditions as a research context is a result of precise theoretical and methodological concerns that have been addressed in other papers and will not be developed here. We should only point out that the nature of this extreme context, paradoxically, greatly facilitates the researcher's work. The choice of this environment eliminates various problems such as the acceptance of the researcher in the field and obstacles related to secrecy and confidentiality. We are not dealing with a private company in cutthroat competition, but with groups, without legal status, that bring together voluntary enthusiasts. The issue of secrecy is not viewed in the same way. Moreover, there is a tradition in polar expeditions, even those specifically focused on athletic performance, to integrate a scientific dimension. The researcher's request is therefore welcomed with pleasure by the actors who quite often solicit and demand such participation themselves. Furthermore, the continuous nature of the activity – preparing outings that last several days, expeditions in the field that can last up to two months – creates proximity of the researcher and the actors concerned that facilitates trust. Finally, in this context, the practical logics of the actors are pushed to their limits that in turn make those logics more visible for the researcher.

THE EXPEDITION

Joel is a young student in civil engineering who had lived and studied abroad. He developed a taste for travel, thus it was completely natural that he would offer to take charge of an expedition staged each year by his school. This provided him the opportunity to discover a world unknown to him: the Great White North. This expedition would be to Spitzberg Island (in the North of Norway, 1000 kilometers north of the Arctic Circle). Completely inexperienced in this domain, he read the daily expedition journal that had been left by a team that had recently completed a similar mission. In his capacity as chief of the expedition, he took charge of recruiting other members of the team. He determined who would participate in the actual expedition to Spitzberg Island and who would remain in support at the base camp in France.

His first task was to find someone who knew what they were doing! Joel, thanks to the father of one of the team members, obtained the support of a well-known, and competent arctic explorer. The skilled explorer brought his experience to the team and cautioned Joel, the young novice, regarding his first foray into this field. Joel's second task was to find sponsors for the expedition. This was not a problem for someone with Joel's background; it was quite normal for students to seek sponsors for many of their various projects and Joel was particularly skilled at marketing. Additionally, there was a network of partners of the school who had provided support for many years for these expeditions. They created a website and developed an informational brochure to facilitate this process. They raised about 100,000 euros, and developed a budget for the expedition. One-third of the budget was dedicated to material and equipment.

Joel's third task was to prepare the expedition. He was conscience that his lack of knowledge in know-how was his weakest point. It was in this step that he would show his openness to the opinions of the experts and his willingness to learn about the arctic. Here also, the support of his expert explorer provided him access to a team of specialists who took charge of their arctic training. Through various relations and contacts, the expedition project began to take form, evolve, and go through the phases of learning about the terrain (for example, spending weekends in high-mountain country with specialists who had already made this expedition). The two months preceding the expedition were very full of work to prepare all the resources that had been accumulated, getting the team ready and fixed, and learning all the small, diverse tasks such as

how to set-up the harnesses for the equipment sleds. After multiple adjustments to the schedule, the budget, the itinerary, and such, they decided to drop two of the proposed departure zones that were considered too dangerous. The expedition – one month on Spitzberg Island – in the end was considered a success. After they returned from the expedition, Joel made sure to thank all of the partners and supporters and gave many interviews to the media, wrote articles, and participated in press conferences.

DISCUSSION

SPANNING A STRUCTURAL HOLE AND ENCROACHING IN A POLAR EXPEDITION

Joel used one of his co-team members as a contact – this was weak link (Granovetter 1973) because he knew that his team member's father held a cabinet level position in the national government. This would enable them to receive a letter of support from the ministry and would facilitate many things for the expedition. It was in this use of a team member that Joel initiated an encroaching process – that is, he changed the normal organizational form used in obtaining permits, etc, for the project.

The first organizational change occurred when he invoked his network to easily obtain expedition sponsorship of one of the foremost arctic explorers (whom we will call “PV”). In turn, this allowed him access to technical polar training with the elite special mountain force stationed in the alpine region of Chamonix. Inasmuch as it is not the normal duties of the elite forces to train civilians, the invoking of the network effected a change of the task process structure of the special forces. The sponsorship of PV gave credibility to their project vis-à-vis the media and finding additional sponsors; this had a snowball effect for the project. They also enjoyed access to national media (newspapers, magazines, radio, television, etc.) in advance of and after the expedition. This made possible the raising of the nearly 100,000 euros – a sum that more than covered anticipated and emergency expenses.

Joel's major weakness in managing this project was his lack of experience in managing major expeditions and his lack of experience in extreme situations. However, his great talent was his ability to span a structural hole and activate develop and activate a social network. In doing so,

he changed the task processes of others – changing their organizational structure – and initiating encroaching processes.

ENCROACHING AND BRIDGING STRUCTURAL HOLES

Encroaching describes how individuals, tasks, or processes change organizational relationships. This is realized through change in the links – interdependence relationships of another individual, task, or process. In the particular case of social capital, we are principally interested in the relationship between individuals. In studying encroaching processes, we are investigating how ego completes desirable links to bridge a structural hole. Recall that encroaching processes possess six components; the corresponding social capital components are presented in Table 2.

Table 2
Corresponding Components

Encroaching Component	Definition	Social Capital Component
Domain	The venue where the change occurred	Social network of ego
Encroacher	The entity originating the change	Ego
Encroachee	The entity that is accountable for the task process being changed	Targeted Entity
Target	The subject of the change	Object of the relationship
Preemptor	The entity with authority to quash an encroachment	Entity within particular clusters of ego's social network
Preemptor network	The structure of preemptor relationships	Structure inside clusters

We believe that egos, in their attempt to create links to bridge structural holes, engage in encroaching processes. In order to reveal these relationships, we use a process framework (Mackenzie 2000). The purpose of this process framework is to capture the behavior of ego in bridging structural holes. In this research, the behavior of multiple egos operating in similar networks is observed. From this we can predict the outcome of encroaching process and the resulting change in ego's social network.

METHODOLOGICAL INSIGHTS

The polar expedition field has appeared to be relevant in order to observe the mechanisms of solicitation social networks in the course of projects. The success of a polar expedition heavily

depends upon contacts developed during the preparation stage that will radically define technical choices and choices of routes. But, over all, this is an environment where the a researcher is welcomed, thus allowing him to have a close look at the entire course of the project, enabling the researcher to get a permanent position of “participant observation” during the entire project. This point is crucial as we make the hypothesis that understanding the subtle mechanisms of social networks allows both deep access to the terrain and concomitant with the course of action thereby avoiding the difficulties in memory and the rationalizations made *ex post facto* by individuals. We highlight here that our perspective is to catch the initial development of social networks in an effective situation in all its singularity, with its part of uncertainty and also opaqueness.

This study relied on a set of formal and informal interviews with all the team members all along the course of the project (at the beginning of the project, before the departure, during the expedition, and then upon their return to France). Repeated discussions by email and phone with the head of the expedition complemented these face to face interviews. We enjoyed access to all the documents (log book, pictures, video movies...) produced by the team to present their project. Then, we also had several informal contacts with each of them as one of the authors of this article was chosen by the members of the expedition as a polar activity expert. We show in Table 3 the points at which we collected various data and the materials used to conduct this investigation.

This longitudinal approach reduces remembering problems and the actors temptations to put afterward a “too strong” coherence in their actual experience. More, we were able to triangulate different sources of information (Yin 1994; Arnaud 2004), thus comforting or minoring essential points of our investigations. In the folowing, we focused now on the nature of this particular activity, the polar expedition, considering it as a sequence of steps and as full project organization.

Table 3
Data Collection Points and Materials Used

Data Collection Points	Materials Used
Before the beginning of the expedition on Spitzberg Island	Informal talk with Joel during an event one hour long Reported on the researcher log book Email discussions with Joel
During the expedition	
After the expedition	Semi-directive interviews: one hour long with each team member recorded on tape Access to the pictures and the movie of the expedition Collective log-book of the expedition Email discussions

CONTRIBUTIONS

In this paper, we have presented the main ideas for a paper that provides five primary contributions. First, we provide a link between social capital theory and the processes of organizational change. Upon close examination, it is obvious that both social capital and organizational change processes are phenomena concerned with the arrangement of interdependencies. Traditionally, how these interdependencies are arranged is the focus of organizational development researchers. The gap we bridge here is between understanding various individual relationships (the domain of social capital) and the processes of organizational change.

Our second and third contributions are: 2) we explore and depict the relationship between actors in the same social network cluster; and 3) we examine and depict the relationship between actors in different social network clusters.

OPPORTUNITIES FOR FUTURE RESEARCH

In a future paper, we seek to extend this work in the area of research methodology. We will develop a process framework in order to show the interplay between the social capital network and encroaching processes. By using process frameworks, we believe we will be able to provide a “contrast material” against which moves by ego are made. To date, we have been able to visualize the social network of ego at Time A and then at Time B. By using process frameworks, we are able to capture the moves of ego. This will extend our contributions to the practice of

management. By showing how process frameworks capture the moves of ego, we will be in the position to develop a tool usable by practitioners in developing their social network; or to impede the development of some other actor's social network.

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