INTRODUCTION

This article has two objectives. First, it presents a project in which the authors participated, from its inception to its debriefing. Therefore, in this case, the researchers were also project actors. The project in question was a 2-week polar expedition via sea kayak in Greenland in 2007. Four participants in two boats traveled over 150 km in complete autonomy. Greenland is one of the world's largest islands, located northeast of Canada and stretching from 60° north at its southernmost point to 88° north at its northernmost point. In this article, we discuss a polar expedition intended for "exploration and discovery," emphasizing that our project represents but one of many forms possible for a polar expedition (Lièvre, Récopé, & Rix, 2003). This trek was successful to the extent that the team returned very satisfied with the expedition and remained satisfied throughout the project's implementation. However, while the project was deemed a success, the team did encounter difficulties. This project "reconstruction" calls upon the perspective of Bruno Latour (2005), which can be used to describe the forms of socio-technical combinations that arise during the course of a given project and eventually allows us to answer the question: How was a collective effort possible? The second objective of this article is to utilize the experience of this unique project to draw lessons regarding project management in general: lessons on team makeup, knowledge management, and the relationship between preparation and actual implementation of a given project.

KEYWORDS: project; expedition; exploration; polar; risk; preparation; improvisation; learning; team

ABSTRACT

This article presents the results of a polar expedition by sea kayak in which the authors participated in 2007. It calls upon the approach of Bruno Latour to describe the forms of socio-technical combinations and the controversies that arose during the course of the project. In addition, the article utilizes the experience of this unique project to draw lessons regarding project management in general: lessons on team makeup, knowledge management, and the relationship between preparation and actual implementation of a given project.

From a methodological point of view, the utilization of a single case is justified according to Yin (1981) in order to represent an extreme case (Greenland can be considered “extreme” by both its being an unconventional project setting for an academic study and its environmental conditions), to represent a case previously inaccessible to the scientific community (to the best of our knowledge, no management researcher has been involved in the organization and analysis of such a project), or to test a theory. A deductive researcher attempts to confirm or refute the hypotheses resulting from a given theory. The researcher's relationship with the environment or setting is generally indirect (for instance, mediated by a statistical instrument). A project can also be studied from the inside. An inductive researcher bases an analysis on facts resulting from the observation of practices and progressively develops a theory. Such, indeed, was our case. We carried out an expedition and have come here, in this article, as researchers.

If one excludes the study of polar logistics (Lièvre, 2003), it is evident that the theme of polar expeditions is absent from project management literature (Kloppenborg & Opfer, 2002). In any case, project management journals do not present any such studies. At best, one can find a few metaphorical allusions or educational applications (Koehn, Helms, & Mead, 2003), but the
polar environment does not constitute a subject of project management study. Two principal explanations can be put forward to clarify this absence. First, researchers generally do not have access to this type of environment. Second, polar expeditions can be considered irrelevant to the study of project management. How can a polar expedition be considered a project? An ambiguity exists with regard to the project’s output. For project management researchers, the development of new goods or services clearly provides relevant subjects of analysis. What about a sea-kayak expedition in Greenland? What is the project’s contribution? The intangible nature of the output and the absence of any scientific dimension to this expedition (the team carried out no in situ experiment and pursued no other goal than to return to its base camp) would underline its “holiday” aspect. Can the participants’ memories of the “good times” spent together during the expedition constitute serious output? In other words, can this trek be considered a “real” project?

We will show that all the characteristics of a project are present in a polar expedition, from the preparatory phases to the actual expedition to the postproject capitalization phases. In addition, this activity is temporary, specific, combinatorial, and uncertain. A polar expedition project is a temporary organization (Ekstedt, Lundin, Söderholm, & Wirdenius, 1999; Lundin & Söderholm, 1995): it is managed in relation to time, cost, and space constraints; it represents a specific task to be accomplished; it combines the participants’ personal objectives and interests with the need for a coherent organization targeting a single goal; and, finally, it necessitates monitoring and planning tools. Furthermore, the work carried out by the Scandinavian school of project management, a project cannot be reduced to the sole implementation of tools but constitutes an organization in and of itself. It is occasionally instigated for ambiguous, irrational reasons and brought about by personal ambitions or desires.

The first section of this article provides a presentation of the project from beginning to end centered on Latour’s notion of controversy (2005). The second section more precisely defines the concept of an expedition project and draws theoretical and managerial lessons from our project.

A Latour-Based Description of the Course of the Expedition Project

Initially, this expedition was a project planned among friends without the slightest thought given to research. The group simply wanted to organize a sea-kayaking trip in the polar environment. The project’s chronology was the following: 1 year of preparation, 15 days of on-site exploration, a financial closing, and a final debriefing 3 months following the expedition. At the end of this adventure, the entire team was greatly satisfied and unanimously declared the trek a successful project. The question soon arose as to why we were so satisfied with this project and whether our appreciation of the quality of this project did not somehow offer something exemplary, or at least something of interest to project management researchers. The opportunity to carry out a presentation a few months after the expedition before a couple dozen project leaders participating in a training program at a prestigious business school served as an excuse for this “scientific” investigation. Furthermore, the expedition leader, thanks to experience acquired during a dozen such expeditions, has the habit of (1) keeping a daily log during the course of such expeditions and (2) using these entries to write about his experiences. As a researcher, he has worked on the content and editing of such logs, in particular as part of a CNRS (National Centre of Scientific Research in France) workshop on annotative activities (Salembier & Zacklad, 2007). The expedition leader is also an avid reader of the logs of such emblematic expedition leaders as Fridtjof Nansen, Paul Emile Victor, and Alain Hubert. Studies have been carried out on the keeping of multimedia logbooks within the framework of constructing an observatory on “organizing” meant to report on the course of polar expeditions in all of their effectiveness (Lièvre & Rix-Lièvre, 2009).

We will borrow the approach of Bruno Latour to present the course of the collective effort that is a polar expedition. In his 2005 work, Latour clearly presented his methodology for describing a collective effort, which strikes us as being particularly relevant. It amounts to a theoretical framework that allows the singularity of the collective action to express itself. Latour follows in the footsteps of Gabriel Tarde with regard to the nature of social issues. He seeks to apprehend social issues as a type of connection between elements that are not themselves social and, more precisely, “as a very peculiar movement of re-association and reassembling” (Latour, 2005, p. 7). It amounts to setting as an objective the monitoring of associations between human and nonhuman elements that provide a certain consistency or togetherness within the framework of a collective effort. It is the forms of socio-technical combinations that allow for an explanation of collective practices. These forms or methods of combination are never static. Great care must therefore be taken in describing the story of these connections, paying particular attention to those human and nonhuman actors that actually have an effect. In the next section, we present this polar expedition by identifying the human actors and the nonhuman actors (that is, the objects and locations) that play an important role in
this story. We also describe the controversies capable of explaining the socio-technical combinations that allowed for the “construction” of this collective effort. We have modified the names of places and the project’s actors.

**Actors, Objects, Locations, and Controversies**

**The Actors**

The actors numbered four plus one. First, there was the expedition project team, composed of four members. We will here grant them two-word character names to set them apart from one another within the context of this sea-kayak trek: Paul the “perfectionist seaman,” Pierre “the handyman philosopher,” Joëlle the “outdoor athlete,” and Philippe the “polar explorer” and expedition leader. While Philippe and Joëlle had experience participating in polar expedition projects, Paul and Pierre were novices. A fifth actor, Bruno, would play a singular role as our travel agency contact. He remained present in Greenland during the course of the project. The project team called upon the services of Bruno essentially for moving about on-site by means of motorboat and for the acquisition of sea-kayak equipment.

**The Objects and Locations**

A dozen physical objects, techniques, management tools, and locations played important roles during the course of this expedition and their absence could have considerably altered the results of this collective adventure. We will here present a few of these objects. First and foremost, the Nautiraid. This sea kayak has been used by the French Special Forces. The particularity of this type of craft is that it weighs some 40 kg and fits in two large backpacks. It can be completely dismantled. Philippe had long dreamed of acquiring this type of boat that allows for long polar raids during the summer, when it is no longer possible to set off on skis trailing pulks. Sea-kayak treks undertaken during the summer thus complement springtime expeditions. Philippe had bought a Nautiraid “Grand Raid” two-person sea kayak, measuring 5.3 m and boasting a maximum payload of 350 kg. Though half as fast as a hard-shell kayak, this type of boat is very reliable and, above all, can be repaired on-site. A central sail can also be installed. Such folding kayaks have successfully crossed the Atlantic. Philippe had already tested his Nautiraid during full-day outings on lakes and the Mediterranean and was eager to take it to the Far North. A second key object was “cleated boots.” These black rubber boots are heavily cleated for use on icy terrain and often worn by cavers. The team members spent a great amount of time discussing the best choice of footwear to bring along on this expedition. For various similar projects, experienced teams had chosen this type of shoe, which would prove highly useful during the trek. The team needed shoes that would keep their feet dry when getting in and out of their kayaks and that would also allow them to walk on ground with a sticky or mucky consistency and on wet rocks. The ideal solution did indeed prove to be the technical boots used by cavers.

Philippe and Joëlle’s house was used as the home base for preparation of the expedition. Listing the equipment and food and planning the course of the expedition relied on management tools in the form of computer files exploiting data provided by past expeditions going back many years. The logbook maintained by the guide of an expedition that followed a route similar to our planned expedition also constituted an essential source of information, as much during the preparatory phase as during the expedition proper. The maps were laminated, annotated, and separated into itinerary sections. E-mailing represented the primary means of communication between team members. The choice of a suitable dry suit (during the summer, water temperatures hover around 2°C near the glaciers) occupied a great deal of attention, and tests were carried out at specialized shops. Philippe and Joëlle finally opted for a suit made out of Gore-Tex® that, while largely waterproof, allows for the passage of air. Of course, Greenland was a magical location for the expedition; however, the choice of location proved the subject of a controversy among the project participants.

**The Controversies**

Two major controversies can be identified: the first arose during the initial definition of the expedition, when an arrangement had to be found between the various expectations of the different team members, while the second controversy occurred during the trek, immediately following a crisis. This second controversy concerned the various scenarios to reach the location where the team had to take its return plane.

- **Controversy 1: Defining the Project**—According to Philippe, the idea for the expedition was initially a sea-kayak trek on the Saint Lawrence River in Canada, paddling among whales. In his mind, this project reconciled his lack of sea-kayaking experience and the inexperience of Paul and Pierre with regard to the polar environment. But Paul and Pierre wanted to go further north and truly benefit from the polar experience of Philippe and Joëlle and do something that otherwise would have been out of their reach. Following numerous discussions, Philippe proposed Greenland as a location. This solution met both expectations, enabling Philippe and Joëlle to learn sea kayaking and Paul and Pierre to discover the Far North. In addition, Philippe had already participated in three Greenland expeditions, though during the spring.

- **Controversy 2: The Return Scenarios**—During a day that had started out well, the team was surprised by a growing, dangerous sea in the middle of a fjord approximately 2 km from the coast. The wind had grown more powerful within the space of an hour. The two kayaks found themselves in...
a perilous situation, at risk of capsizing in icy water. After nearly 2 hours of intense struggle against the sea and wind, both two-person boats finally managed to reach the seashore. However, the situation remained tense, for the wind did not abate. Philippe was against continuing the kayak trek if the weather remained unchanged. He even seriously considered returning on foot, constructing sleighs and returning by way of the valleys. A period of great tension followed within the team. Paul was against returning on foot and did not see why they could not return by kayak. Philippe proposed another scenario: hitching a ride on a boat to Ilulissat, the town of entry into Greenland (with its own airport) and the point of departure for polar expeditions. Pierre was bothered by the idea of a "cruise" back, which would spoil the initial desire for an autonomous expedition. Finally, 2 days after their landing, taking advantage of a small window of favorable weather, Philippe decided to kayak straight back to the point of return, a paddle of over 40 km. The team set off at noon and arrived exhausted at their destination at 10 p.m. The window had held.

**The Course of the Expedition**

On November 13, 2006, Paul and Philippe met during a symposium in Paris. Philippe discussed his project for a kayak trek in the Far North with Paul, who expressed his interest in joining such an expedition. Philippe consented, but Paul would need to find another team member, the idea being to set off in two boats, for safety reasons. On December 3, 2006, Paul asked his friend, Pierre, to join him. They agreed that he would need to telephone Philippe. On December 15, 2006, Philippe and Pierre enjoyed a lengthy discussion over the phone. Philippe attempted to define his motivations regarding the content of the expedition. It was immediately apparent that they were on the same wavelength.

On February 6, 2007, Philippe sent a long e-mail to Paul and Pierre (copied to Joëlle):

Hello. Following our various conversations, I propose deciding on the final expedition the weekend of 10 to 12 March when we'll be together at the house. There are three possibilities: the Saint Lawrence, an Inuit village in Labrador or an itinerary along the Northwest Passage. As I've said before, I must consider my (and Joëlle's) lack of experience with sea kayaking and your unfamiliarity with this type of adventure. The length of the expedition (15 days) and our various motivations must also be taken into consideration. I'm not too concerned with your physical capabilities. However, our journeying into an environment that is hostile (polar bears), cold, wet, and salty, combined with our having to manage numerous constraints, could prove more problematic. Indeed, we could quickly be confronted with unforeseeable hardships, which could prove trying or rewarding experiences, while keeping in mind that we will take all possible measures, given our unfamiliarity with kayaks, to take the time to learn and explore. For instance, we could be stuck in our tents for three days due to poor weather and still arrive two days early at the location where we are to take the plane back, for an overall trek of 11 days on-site. As for the organization of this great weekend, it seems to me that it must be divided into four parts: (1) A full day to plan the expedition and share out the various tasks; (2) Camping out no matter the weather conditions; (3) A somewhat strenuous activity to test the team spirit: depending on the weather, either a snow-based activity (cross-country skiing) or a water-based activity (canyoneering); (4) A sea-kayaking activity: assembling/dismantling the kayaks and crossing a lake, the order to be determined depending on the weather.

See you soon. Philippe

The preparatory weekend was scheduled for March 10–12, 2007, at the home of Philippe and Joëlle. Pierre and Paul arrived Saturday morning. What followed was a long discussion on the expedition project. This was Controversy 1. Philippe put forward a certain number of proposals that took into consideration both his unfamiliarity with sea kayaking and Pierre and Paul's lack of polar experience. A kayak trek on the Saint Lawrence was the easiest option with regard to logistics. However, Paul was not won over by this project, because he could go on such an expedition alone with Pierre. He wanted to take advantage of Philippe's experience to explore the polar region. Pierre seemed to agree. Following further discussion, Philippe had an idea: he opened a map and proposed a trek along the western coast of Greenland. This proposal quickly satisfied everyone's expectations.

At 5 p.m., the four team members set off on their cross-country skis to camp out on the snow in the Sancy Massif. The next day at noon, they descended a canyon with water between 10 and 12°C. Monday was set aside for assembling their kayaks. A second preparatory weekend was scheduled in Auvergne from April 27–29, 2007. The team met Friday evening at the home of Philippe and Joëlle. Saturday was dedicated to kayaking (assembly and paddling); the team members carried out a variety of exercises throughout the day. Sunday was spent choosing the equipment and food for the upcoming expedition.

During the months of May and June 2007, numerous e-mails were sent and telephone calls made. Paul and Pierre made purchases in a specialized shop in Paris. Philippe provided technical assistance by telephone. Pierre took advantage of Philippe's visit to Paris to try out various dry suits.

The month of July 2007 was dedicated to completing the final preparations. The expedition's food needed to be planned with the greatest care. Each
member needed to prepare three small bags per day weighing a maximum of 1 kg and corresponding to a specific number of calories. The team members needed to be able to use these food bags while paddling or when in their tents. The final problem that remained to be solved before setting off was the lithium batteries needed to power the anti-bear device. Paul searched the specialized shops in Paris.

On Sunday, July 22, we arrived in Ilulissat, Greenland. After preparing the boats rented on-site from France, we set off. The team boarded a passenger trawler headed for Port Victor. The objective of the trek was to return to Ilulissat without assistance, an autonomous journey of a little over 150 km along the coast. The team planned on making numerous on-site hikes and taking advantage of the expedition to discover the region’s fauna, flora, glaciers, serac formations, and mountains. Various routines quickly emerged, for each double kayak or for the entire team. Each pair of kayakers learned or perfected how to set up and dismantle the camp (one tent per pair), launch its boat, paddle on the sea (steering the boat, playing with the waves, handling the paddles), and pull its kayak up on shore. At the team level, the collective effort was organized around a few basic principles: a break every 3 hours; Pierre and Paul led the way; as soon as the wind rose, Philippe was the one to decide where and when to set up camp; and so on. The days flowed by—peaceful, magnificent, and intense. The only incident worth noting occurred during the third day, when Pierre and Paul set off by themselves to explore the head of a fjord. They were supposed to remain within sight of the second pair but disappeared from view after an hour. They even ventured to disembark on the edge of a glacier, without any experience with this type of terrain. Upon their return, Philippe clearly laid out his responsibilities as expedition leader in the event of a problem. On Sunday, July 29, following a fine day of kayaking, the team landed on a beach at the end of a small bay in a fjord. After setting up camp, they saw a lovely sailboat arrive and drop anchor in the same bay. The next day, the owner, a Welsh sailor, invited them aboard for tea.

On Tuesday, July 31, after a pleasant evening spent aboard the sailboat, the wind began to blow during the night. In the morning, the four team members had planned on continuing until the terminus of the glacier, but the weather changed their plans. Indeed, kayaking up into the wind would have been dangerous. They were no longer sure of reaching the glacier, or they would have to go there on foot. The rest of the planned trek would not be easy; many other expeditions had already been blocked for several days further down the coast. Some had even been forced to call upon boats to take them to Ilulissat. The four decided to turn back. To leave this camp, they had two options: they could cut straight across the fjord to directly reach the opposite shore, or they could paddle along the coast, passing by the head of the fjord. The wind was blowing diagonally at about 30 km/h. They finally chose the shorter of the two options. They made sails out of tarpaulins. Two days earlier, they had tested this technique, which had proven effective. The first hour went well. The two kayaks navigated within earshot of each other. Suddenly, they found themselves far from either shore, in the middle of the fjord. They had difficulty evaluating their distance from the coast. Philippe judged that they were rather far. The four paddlers quickly realized that they were in danger. The wind grew stronger, reaching 50 to 60 km/h, and the sea, which had been a little lively at first, had become dangerous for the kayaks. If they attempted to return directly to shore, they risked capsizing, because waves had formed laterally to the two kayaks. It became clear that the team was in danger and that they needed to return to shore as quickly as possible. Tension grew on the icy water some 2 km from the shore. Communication between the two kayaks was no longer possible, for they were no longer within view each other. Nor could they come to each other’s aid; they had no choice but to return to shore. It was then that Philippe understood the importance of having an Argos beacon aboard, or a satellite telephone slung across the shoulder with a precoded message. Philippe “turned on the turbo.” Joëlle, his kayak partner, stiffened with the effort and the fear of capsizing. Philippe’s orders to maintain course and accelerate only exacerbated his difficulties. He, therefore, changed strategy: “It’s OK. We’ll get there, slowly but surely.” They paddled hard and continuously for at least one hour before finally seeing the shore approach. When they arrived on the beach, they found themselves in a river delta. They were overjoyed to run aground. Only a few minutes later, the second pair of paddlers beached their kayak 50 m away. Once aground, the four team members brought their boats up, safe from the waves and the wind. The sea was high, with gusts of 70 km/h and waves of 80 to 100 cm. Philippe looked for a place to set up camp and found a space near a river. After setting up camp, the team set off for a walk along the heights, to relax and discuss what had happened. The situation was tense. Philippe declared that if the wind did not abate, he was against continuing the trek by kayak. He even seriously considered returning on foot, constructing sleds and returning by way of the valleys. Tensions were high within the team. This was the second controversy.

The next day, August 1, the weather remained the same; a slight drop in the wind was announced, but Philippe noticed no change. Paul and Pierre went for a walk. Upon their return, they decided to all go together to the “bird cliff.” There, they met a group of hikers. A long discussion ensued with the guide concerning the sea conditions. The latter confided that alone he would set off by kayak, but with clients, he would wait. The wind diminished around 5 p.m. Paul wanted to set off.
“No,” Philippe answered, “we need 3 hours to break camp and we need to eat and rest. Tomorrow morning, we’ll decide what to do.”

The next morning, the wind died down. The team had a window of 6 to 7 hours. Philippe proposed they leave as soon as possible and return to Ilulissat in a single continuous paddle, a long, 40-km day. The team got ready and set off without the sails, making sure that they remained within 50 m of the shore. It proved to be a very long day. The beginning of the paddle was easy, with the wind at their backs blowing in the right direction. However, the wind then began to blow laterally to the kayaks, slowing them down. Finally, the two boats headed directly into the wind and came across rivers emptying their waters into the fjord. Pierre’s hands were freezing. The team decided to stop. Paul showed signs of fatigue. After eating, they set off once again. The two boats had difficulty keeping together. To cross the final fjord, both kayaks headed in as far as possible to find the calmest sea. The sky was black, announcing rough weather. This was their last crossing at the head of a fjord. The two boats advanced parallel to each other at a good pace. They encountered a cruise ship heading into the port of Ilulissat. At 10 p.m., they finally arrived at their base camp, Ilulissat’s small campsite. The people at the campsite, kayakers, were rather surprised that we were able to paddle this 40-km stretch in only 10 hours, in a single effort, aboard our Nautiraid. They were all the more surprised by our arrival since they had expected us to take the boat. The expedition came to a symbolic close with dinner in the town’s best restaurant, an essential ritual following this type of expedition. The team celebrated the end of the project. A weekend at the home of Joëlle and Philippe was scheduled 2 months later, in the company of all their families, to revisit their journey with videos and photos and to close the expedition’s accounts.

An Expedition Project and Project Management—Lessons Learned

The objective of this section is twofold: (1) we define polar expedition projects as full-fledged projects, and (2) we present three types of lessons from the 2007 Greenland expedition, related to team makeup, the link between project preparation and implementation, and cognitive lessons.

Expedition and Project

Within the context of this article, expedition refers to the journey, the mission, and the venture. From a historical perspective, expeditions have traditionally led to the exploration of unknown regions. Project, on the other hand, refers to the method or form chosen for organizing and managing the expedition. In practice, we here combine the two terms to consider expedition projects.

Within the classic typologies of project management, polar expedition projects would be considered “event-based projects,” with the attributes and processes that generally characterize this type of project. According to polar specialists, polar expedition projects are a combination of various types, incorporating the “athletic exploit,” the “pleasure of skiing,” “exploration,” and “scientific research” (Lièvre, Récopé, & Rix, 2003). Therefore, the sea-kayak trek carried out in Greenland in 2007 represents one of various forms of expedition: an “exploration,” according to the previously cited typology. Exploration is the progressive discovery of a new world. The degree of novelty or “newness” is defined from the point of view of the actors or explorers. In 2007, Greenland was a new world for three of the four team members. Certain expeditions have been full-fledged explorations, those penetrating a region for the very first time, such as the conquering of the poles or the opening of the Northwest Passage. In such cases, the expedition members set off to explore an unknown territory (unknown not only to them, but to the “world”) for which they must invent plans or methods that are partially novel in order to suit the singular situations to be managed. They are forced to innovate with regard to project management. An expedition project such as our own is also a source of innovation and learning. The researchers’ position allows for this to be demonstrated.

In the specific case of the Greenland expedition, an amateur team managed the project from start to finish. The team’s continuity is an important characteristic of this project, allowing it to endogenize the lessons learned within its three phases: project preparation, implementation, and debriefing. In other words, the team’s continuity or persistence allows it to retain the knowledge gained (techniques, skills, and relationships) from one project phase to the next. This project’s output is a self-produced “service” that is consumed during the course of the project. However, it is also, after the event, a body of lessons and profound memories that allow for the reproduction of a similar project or the involvement in different projects. For each member of this team, there was also the desire to test one’s personal limits, at the crossroads of exploring nature, autonomy, and overcoming a certain physical challenge, even though “performance” per se was not an objective. Here we can observe the characteristics of the motives for committing to a project team (Picq, 2005). Whereas many studies emphasize the meaning of a project, or the need for a project to make sense to its participants, here, the question of meaning is irrelevant or, rather, this question is answered by the very nature of the project itself. It is unnecessary to rally the team around the project. From the beginning, the project idea is, in and of itself, sufficient motivation to allow the project to take concrete form after the event.

Finally, polar expedition projects in general, and the 2007 Greenland trek in particular, can certainly be considered “projects” (see Table 1). Expedition projects share characteristics with more generic project types.

<table>
<thead>
<tr>
<th>With an overall objective</th>
<th>Enjoy an out-of-the-ordinary experience; here, the question is raised as to the project's meaning for the participants.</th>
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<tbody>
<tr>
<td>Temporary</td>
<td>Preparation phase</td>
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<td></td>
<td>Implementation phase</td>
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<td></td>
<td>Final debriefing phase</td>
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<tr>
<td>Specific</td>
<td>Although the project capitalizes on the project leader's experience (in particular, with regard to equipment to protect against the cold and anti-bear devices), its content, organization, and planning cannot be identically reproduced. Furthermore, sea kayaking was a new activity for the team.</td>
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<tr>
<td>Subject to uncertainty</td>
<td>The expedition project’s success depended upon, in particular, exterior factors outside the team members' control, such as uncertain weather conditions and the threat of polar bears.</td>
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<tr>
<td>Combinatorial</td>
<td>The project integrated various profiles within the team, with two “novices” and two “experts”; it also combined a variety of logistic, navigation, mapping, and other skills.</td>
</tr>
<tr>
<td>Subject to exogenous variables</td>
<td>The project did not seek to isolate and stabilize the team's activities by establishing borders between them and their environment using planned rules and procedures. While such rules existed, they were used to adapt to a dangerous and largely unpredictable environment.</td>
</tr>
<tr>
<td>Consumes cash flows</td>
<td>As opposed to a sponsored expedition, this project was not meant to produce any cash flows; rather, the project was entirely funded by its participants.</td>
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*Table 1: Projects in general and our polar expedition project in particular.*

By characterizing the expedition project as a full-fledged project, the expedition becomes a subject for management. Furthermore, there are private companies that organize polar expeditions for their clients. These companies have developed their own distinctive project-management skills (e.g., Grand Nord Grand Large and The Expedition Project Management Company Ltd.). By defining the expedition project as a full-fledged project, the expedition also becomes a relevant subject of analysis for management research.

**Knowledge Gained via the Expedition With Regard to Project Management**

Here we underline the characteristics of the expedition project that intersect or overlap analyses in project management literature and that can be used as examples or references for further expedition projects. We insist upon three points.

**Team Makeup: A Prototyping of Situations to Come and a Study of Expectations**

Complicity, confidence, and mutual respect already existed between three members who knew each other before the start of the project but who had never undertaken an expedition together. Pierre, Paul’s friend, was the fourth team member. Paul was therefore the only person who knew each participant before the project began. Following a common project management practice, Paul sponsored Pierre. However, it is clearly insufficient to gather a group of friends to form an expeditionary team. In the case of the Greenland trek, it was also necessary to verify:

- the four would-be participants’ ability to live together under difficult and even dangerous conditions;
- each member’s commitment to the project because a retreat would not be possible during the actual trek2; and
- the physical capabilities of each member.

For the researchers, one advantage of this project was participating from beginning to end. The actual expedition—in other words, the implementation phase of the project, during which a retreat is rendered irreversible and/or very costly (that is, go/no-go markers are important in this type of project)—is preceded by preparatory phases. These preparatory phases largely determine the project’s subsequent performance. They are training, testing, or prototyping phases and reconnaissance phases that result in the setting up of “advanced posts” from which the expeditions will head out. The objective of the training phases is to test the team members’ ability to live together, as well as technical devices/systems (equipment and tools3). The tests are carried out in environments representative of the actual expedition location. These phases are thus unique opportunities for the team members to attempt to

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2Of course, withdrawal is always possible in cases of imminent danger, but we would like to emphasize here the impossibility during the expedition of leaving the project. The team must always stay together. It is not possible to take a break, return home to one’s private life, and then join the project again. Managing the team means planning breaks within the project space (rest days, for example).

3We have chosen not to write about the acquisition of resources upstream. Other work deals with the logistics of polar expeditions in great detail (Lièvre, 2003). We will only mention that the acquisition of resources leads to learning to adapt one’s sense of scale. It is not the devil that is in the details, but the very essence of the project. Apparently, minor resources became fragile lifelines on which the entire expedition depended. Identifying which ones are vital in advance requires skills that are essential for the project’s success. It also leads to sparing no means in organizing resources. The comfort (and therefore morale) and security of the expedition depend on them.
Polar Expedition Project and Project Management

...
use are, therefore, questioned by the interactions among the expedition members and by the physical environment (thus, the importance of being able to interpret weak signals). Considering the case of Christopher Columbus, for instance, one can observe the important role played by the discussions held between Columbus and the scientists aboard the *Hispaniola*, as well as the role played by the latter in the evolution of his representations (Heers, 1981).

**Knowledge and Ignorance: Knowledge in Action**

Within the project management literature, much has been written on the skills of the project leader, as well as those of the other team members (Picq, 2005; Turner & Müller, 2005). These skills are contingent. Thus, one does not expect to find the same capabilities at the beginning as at the end of a project; capabilities also vary according to project type. The Greenland expedition underlined two cognitive lessons, in particular:

1. **Cognitive gaps and in situ production of knowledge.** Philippe had significant experience in polar expeditions, with a dozen such expeditions under his belt at the start of our project. However, he had never gone sea kayaking, nor had he ever been to Greenland during the summer. There was therefore a skill gap with regard to sea kayaking in Greenland, and this gap was not filled by the other members of the team. Philippe expected to learn from this expedition; knowing how to kayak was one of his motivations. What is more, the only serious problems that the team would encounter during the expedition had to do with sea kayaking. In other words, the project suffered from this ignorance on the part of its participants. The difficulty resides in making the right decisions in situ for the project (here, those that would not endanger the team). How can the expedition leader determine whether a particular kayak route through a fjord is dangerous if he does not know? This touches upon the illusion of an omniscient project leader, which has long been the subject of discussion (Midler, 1993). In practice, a project leader must respect meta-rules (Jolivet & Navarre, 1993) of prudence; in other words, he must identify *a priori* knowledge gaps and fill them before the launch of the irreversible phase, rely on the expertise of other actors (particularly the “natives”), or give up on the spot. The debriefing session, held on-site in Greenland and covering erroneous decisions with regard to navigation, coupled with in-depth discussions following the expedition with sea-kayak specialists, proved indispensable sources of knowledge for the pursuit of the expedition and for the elaboration of new projects.

One incident was also the cause of an in situ lesson following an autonomous exploration by kayak carried out by Pierre and Paul toward the terminus of a glacier. The two novices, who were supposed to remain within view of Philippe, disappeared for nearly 2 hours. This initiative clearly created a dangerous situation. It resulted from a shortcoming of the expedition guidelines. Pierre and Paul had broken no formal or tacit rule. Nevertheless, the situation created a very difficult risk to manage for the expedition leader. The rule (“We shall never separate, or, in any case, never without prior notice and approval”) therefore emerged after the event, immediately following the tense reunion. This was made clear by Philippe when he asked: “And what do I tell your wives if you don’t come back, when I’m the project leader??” Here we have a rule resulting from a situation-generated lesson.

2. **Generic and local knowledge.** Another characteristic of the project studied concerns the important difference in terms of team management between “generic knowledge” and “local knowledge.” Philippe’s knowledge was considerable, especially compared to the relative ignorance of the team’s two novices. Philippe’s knowledge is the accumulation of 20 years’ worth of diverse expeditions, concomitant with his work as a “reflective practitioner.” For all that, during the expedition, it was local knowledge that, in situ, linked up with generic knowledge. Knowing how to walk on a glacier is not synonymous with knowing how to walk on this glacier, in the here and now. Knowing how to sail does not necessarily mean knowing how to navigate among the chaotic, violent currents of the Gulf of Morbihan. The expedition’s success depends upon local knowledge. Once again, it is the in situ, specific, and local implementation that proves a decisive factor for the project’s success. Generic knowledge constitutes an essential resource for the production of situated or local knowledge. The capacity to interpret the environment and its weak signals, as well as the capacity to at times admit one’s ignorance (“right now, I do not know or I do not know enough”) determine the project’s success. The development of local innovations also allows for the filling of cognitive gaps. The team was on the lookout for innovative solutions that would improve the safety and/or comfort of the expedition. This kayaking trek produced in situ innovations taking advantage of environmental conditions. In this manner, we were able to test various types of sails made from tarpaulins. The sails then became a relaxing substitute for paddling when a gentle wind blew at our back over a calm sea.

**Conclusion**

In this conclusion, we present a few observations. First, a polar expedition is a full-fledged project with all the characteristics of this type of activity: a temporary, specific, and combinatorial
activity having an overall goal that is sub-
ject to uncertainty and exogenous fac-
tors and consumes resources. Therefore,
it is legitimate to consider a polar exped-
ition within the framework of project
management. This project, whose out-
put is neither a new product nor the con-
struction of an infrastructure, can be
placed within the “events-based project
management” category. We used an
inductive (and, more precisely, an
abductive) type of qualitative methodology
to study a single case (see Yin, 1981),
in an intrinsic perspective. It amounted
to an in-depth investigation of a polar
expedition belonging to the “exploration
” genre. The actors were the
researchers participating in this adven-
ture. Our interpretation of this expedi-
tion called upon the perspective of
Bruno Latour (2005) to organize the
phase-by-phase description of this polar
expedition project from the initial idea to
its financial closing.

Three results merit particular
emphasis, considering their contribu-
tions to the project management cor-
pus. The first concerns team makeup
and the important task of “reconfigura-
tion” that was carried out by the project
leader in relation to the expectations of
the various team members. Elucidating
the expectations of a project’s partici-
pants and the manner in which these
expectations are reconfigured by the
project leader are not trivial aspects of
project management. First, updating the
team members’ expectations extends
beyond the mere “declarative” aspect. It
amounts to the expression of deeper
trends rooted in the life histories of the
various actors (see the Récopé, Lièvre, &
Rix-Lièvre article in this issue). That is
why the expedition leader proposed
that the team members, from their very
first meetings, confront somewhat diffi-
cult and demanding situations together,
so as to uncover the various actors’
expectations in situ. Second, the task of
putting these different expectations into
perspective with regard to the process of
(re)configuring the project implies
a system or method of deliberation
between the actors and significant
resources (held ex ante by the project
leader) in order to propose in situ solu-
tions.

The second result concerns the revi-
sion of the project plan throughout the
course of the actual project “out in
the field,” which must take into account
uncertainties linked to the weather, as
well as the team's in situ trials and errors.
For the entire project, from its inception
to its implementation, the team is sub-
jected to a situation of “organizational
learning” as described by Schön (1983).
The project plan is a resource for the
collective action but it must allow for
improvisation (see the Aubry & Lièvre
article in this issue).

The third result concerns knowledge
management: specifically, the cognitive
gaps observed ex ante and the transition
from generic to local knowledge. For the
Greenland expedition, the project leader
and the team were aware of their respec-
tive shortcomings with regard to the
knowledge and skills connected to the
project being pursued. All project
participants lacked sea-kayaking knowl-
edge, while some team members were
also inexperienced with regard to polar
expeditions. This lack of knowledge/skills
was the cause of the various prob-
lems that arose during the expedition.
During a project’s preparatory phase,
one must consider the methods used to
investigate these knowledge gaps. At
the same time, either the list of gaps will
always be incomplete or the manner in
which they are filled will always prove
insufficient. Therefore, one must concen-
trate on constructing a team based on
shared values, listening, and confi-
dence between its members, and ele-
ments that will allow the team to con-
front totally unpredictable situations
that necessitate what Weick (1993) refers
to as “organizational resilience.”

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