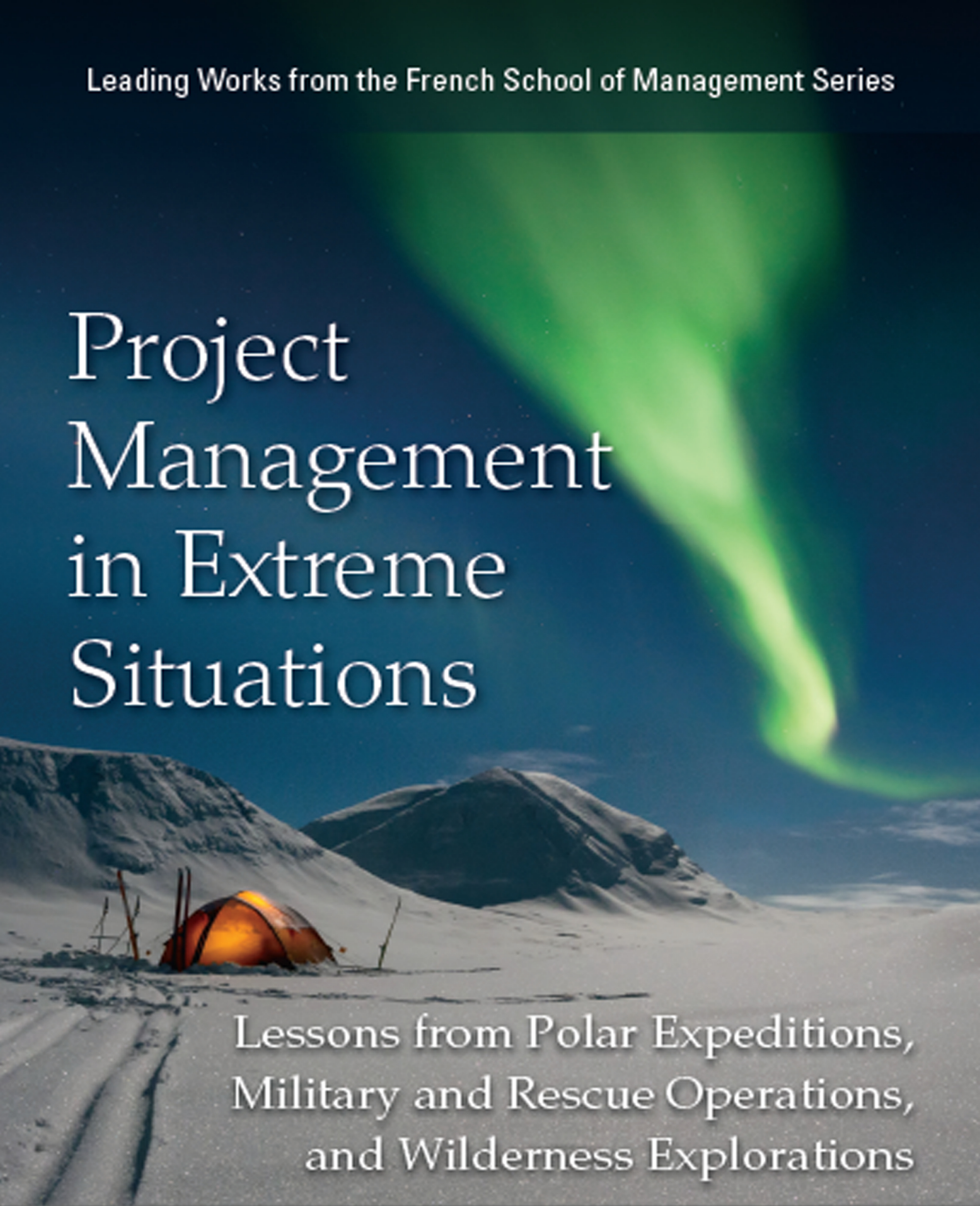


Leading Works from the French School of Management Series

# Project Management in Extreme Situations



Lessons from Polar Expeditions,  
Military and Rescue Operations,  
and Wilderness Explorations

Edited by  
Monique Aubry  
Pascal Lièvre

 **CRC Press**  
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AN AUERBACH BOOK

# Project Management in Extreme Situations

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Military and Rescue Operations,  
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# Dedication

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To Jacques LeBlanc, my late father-in-law, who inspired me by his lifetime research on the *Man in the Cold*.\*

To our families, who have continually given us their love and still do.

– Monique Aubry  
– Pascal Lièvre

\* **LeBlanc, J. (1975).** *Man in the Cold*. Springfield, Ill: Charles C. Thomas.



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# Foreword

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**Ann Langley**

When Monique Aubry asked me to write a Foreword for this volume, I could not help wondering: Why me? I am neither a specialist in project management, nor am I addicted to extreme situations. My research sites are large and complex organizations rather than temporary organizations, and while I enjoy spectacular scenery, I like to remain close to civilization and view it from a safe distance. However, on reflection, perhaps I am the perfect reader for this volume. The subtitle of this book includes the word “lessons,” suggesting that I might have something to learn from these experiences that are, for me, particularly strange. So what might I learn? Indeed, what have I learned from reading this book? In the next few paragraphs, I will try to answer these questions, hoping to stimulate the interest of other readers, whether they be specialists in project management, adventurers in search of the extraordinary, or, like me, ordinary professors of management seduced by the premise of this book that extreme situations can offer lessons for organizational life.

Indeed, the volume offers a rich variety of lessons and insights. On one level, what I particularly appreciate in this book is to be transported to unknown places and to experience vicariously some intense moments along with the participants (while safely ensconced in my armchair). The stories presented in this book are often richly described and deeply touching: for example, the episode with the dogs in [Chapter 2](#) by Monique Aubry and Pascal Lièvre, [Chapter 13](#) by Markus Hällgren about the Mount Everest climbers, and the adventure with the Neeposh clan in [Chapter 6](#) by Nathalie Guérard and Anne-Marie Cabana. The reader feels the deep involvement of the authors in these experiences, and these stories deliver far more than any abstract academic interpretation could communicate. These authors are first and foremost accomplished storytellers.

However, stories without plots are never totally satisfying. To derive lessons from their accounts, the authors often tell us what they themselves learned from these experiences. For example, Aubry and Lièvre use the incident of the dogs and another incident on a drifting boat in the Antarctic to discuss the notion of ambidexterity in project management and show how exploration and exploitation before and after a project can interact, creating consequences that may be surprising and potentially valuable for project leaders. Similarly, Hällgren draws on the Mount Everest experience to introduce concepts associated with the spontaneous emergence of novel team relations in projects under stress. Underlying several of these contributions are the eternal tensions between planning and improvisation, between the predictable and the unknown, and between organized foresight and situated creativity.

The authors thus draw skillfully on extreme situations to suggest concrete lessons for project management in more mundane business contexts. They also find diverse ways to communicate their lessons. Some, such as Tessa Melkonian and Thierry Picq, propose to transfer knowledge directly, as in [Chapter 12](#), where they explain how the French Special Forces develop collective competencies. Others use more traditional academic forms that involve presenting an empirical case study and analyzing it according to a theoretical framework from the literature on organizational theory or sociology to derive understanding, as in the case of the various comparative studies of Lièvre and colleagues (see [Chapters 1, 3, 4, and 5](#)). In [Chapter 9](#), Valérie Lehmann innovates by offering us a kind of allegory on project management as rock-climbing. Others, such as Alain Grenier ([Chapter 7](#)) and Guérard and Cabana ([Chapter 6](#)) plunge the reader into the context with the use of photography.

The book also offers lessons on methodology that are particularly appealing to someone like me who is interested in qualitative methodology and the analysis of strategic practices in organizations. [Chapter 5](#), by Géraldine Rix-Lièvre and Pascal Lièvre, proposes two complementary methods (i.e., observer participation and participant observation) that have been effective for their studies on extreme situations, and that might also be valuable in less unusual organizational contexts.

Dissatisfied with simply creating a series of disparate contributions with their own distinctive lessons, the editors of this book also had the brilliant idea of inviting a series of experts in project management—four practitioners and an academic—to present their own lessons from these studies of extreme experiences. This is a solid contribution to the book, placing in perspective the individual situations investigated in this book, integrating their lessons, and grounding them in organizational life, without denying their special character.

Finally, building on their own interests and experiences, all readers will find their own nuggets of insight in this book beyond those expressed explicitly. For

my part, in reading this book, I was struck by how extreme situations reveal our vulnerability and interdependence with others. It seems also that isolation, the loss of habitual reference points, and situations of crisis accentuate the fluidity of interpersonal relations and contribute to the emergence of informal or collective leadership, a phenomenon that particularly interests me. It would be useful to examine whether the same types of setbacks and transformations in relationships show up in business organizations as they go through crisis. Finally, this book suggests to me that the study of project management would benefit from more detailed ethnographic work than is usually seen in business studies. In the book's Introduction, Christophe Bredillet also comments on the need to broaden research perspectives on projects and their management, which corroborates this thought.

In conclusion, I confess that this original and stimulating book also made me think about some of the large projects in which I have recently been involved. While I have never been in any physical danger, the feeling of uncertainty and apprehension that accompanies such large undertakings resonates nonetheless. The book thus touches a sensitive nerve, even in someone who is neither a specialist of project management nor of polar expeditions. I hope you enjoy reading this book as much as I did, and that you also find much to learn.





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# Preface

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In June 2009 the University of Quebec at Montreal (ESG-UQAM) hosted a two-day research colloquium on the theme, “Lessons Learned from Project Management of Polar Expeditions.” Researchers from France, Sweden, and Quebec met in Montreal to examine project management in the context of polar expeditions. This colloquium was made possible thanks to the Project Management Chair at ESG-UQAM and the Clermont Research Center for Project Management (University of Clermont and ESC Group, Clermont, France). The Clermont Research Center has been conducting research in the area of management under extreme conditions, which has included for 10 years research on polar expeditions (Lièvre, 2001). In June 2010, the *Project Management Journal* published a selection of eight articles presented at the colloquium in a special issue, “Project Management in Extreme Environments” (vol. 41, no. 3). This work collects the full and rich range of presentations given at the colloquium.

But why would researchers in project management hold such an event? The growing complexity of projects, as well as the risk inherent in certain types of projects, often renders inefficient traditional practices and processes that are based on the hypothesis that everything about a project is known at its inception. Project goals and the means to attain them are often known only gradually as a project unfolds. Under these circumstances, traditional practices and processes may not be sufficient. A new look at planning is necessary to give projects the flexibility they need for their entire length.

The innovation-based and knowledge-based economy that began in the 1990s (Nonaka, Takeuchi, & Umemoto, 1996; Cohendet, 2005; Foray, 2009) highlights enterprises’ ability to constantly be managing innovative projects in what we call extreme conditions—conditions that are knowledge-intensive, constantly evolving, high-risk, and filled with unknowns (Lièvre, 2005; Lièvre & Gautier, 2009; Lievre 2007). Thus we put forth the hypothesis that

projects in extreme environments can be a source for informing more traditional enterprise projects in the context of today's economy. In fact, for many years organizations have been forced to invent on the fly new management rules to conceive and carry out such extreme projects as polar expeditions, summiting high-altitude mountains, military and special operations, and combatting forest fires. A classic case studied in project management is the 1897 expedition by the Norwegian Fridtjof Nansen, who, after 10 years of preparation, set off to conquer the North Pole by letting his ship, the *Fram*, be carried by ocean currents. It is an example of a failed project whose goal was not reached, but it nevertheless made remarkable advances to its field, which was Arctic exploration, as well as to the field of salvaging an exploration. This expedition became a model of organization known as the Norwegian school of polar exploration, and it enabled the conquest of the Northwest Passage (1905) and the South Pole (1911). It is also possible to investigate and learn from contemporary polar expeditions, which we do in this book.

Investigating projects in extreme environments makes project phenomena easier for researchers to study because the context is rugged, team members' reasoning is pushed to the limit, and the risks inherent in these types of projects make the players quickly adjust their actions.

We believe that polar or mountain expeditions, or more generally, ones in any extreme situation, are ideal for research in project management. Elsewhere these projects are considered a class apart from the rest, as is the case in Scandinavian literature on project management. However, extreme situations act as a metaphor in the sense that they form a concrete image that helps to capture interactions that in other organizations seem more abstract. Extreme situations in management, such as polar expeditions, offer great potential for learning about management of unexpected and unpredictable situations.

For several years now, a movement toward renewal has been forming in the project management research community. Several arguments and proposals have been put forth to advance project management in the field of organizational theory as a legitimate research object *per se*. A common trend of these arguments is that there is not a single theory of project management. We acknowledge instead the existence of multiple facets based on a great variety of viewpoints. This variety can be seen as a characteristic of a field that is evolving and has not yet stabilized. In this dynamic context, which is being investigated, the search is for a global overview in which a variety of approaches can both be integrated and promoted to formalize a coherent model of project management.

The colloquium held in Montreal was a part of the movement of renewal by questioning certain traditional fundamentals concerning issues of philosophy, application, society, and methodology. The presentations at the colloquium covered a range of specific perspectives. Each presentation offered its own perspective, but together they formed a coherent and integrated approach to research.

Before getting into the book's content in-depth, we look at the Introduction by Christophe Bredillet on the philosophical basics of project management. This piece reviews the ontological and epistemological fundamentals of project management. Bredillet uses this occasion to gather his pieces published when he was the director of the *Project Management Journal*. Based on Le Moigne ("Modeling to Understand—That Is, to Do Ingeniously," 2003), he proposes an approach to creating a meta-model. This model allows the paradoxes inherent in the dynamics of project management to be reconciled.

In [Chapter 5](#), Rix-Lièvre and Lièvre define a new methodological approach to capture activities as they happen. The challenge is looking at an organization in action. In this way, a project comes into being as activities take place. The project observatory described in this chapter consists of a multimedia logbook and a device to observe practices. The researcher plays an active role. The device is a mini-camera installed on the researcher's eyeglasses. Image, sound, and all of the action are captured for analysis, along with the usual analysis of written documentation. Analysis involves the project participants reflecting detachedly on the different records constructed during the expedition. A narrative is constructed after the fact by the collective of participants and researchers.

The subject of [Chapter 6](#), by Nathalie Guérard and Anne-Marie Cabana, is an expedition that does not take place in a polar region, but rather in Northern Quebec. It is the story of a Crie family's last traditional fishing trip in an area that will be submerged by the diversion of one Northern Quebec's great rivers, the Rupert. This exceptional project took place as part of an environmental impact study. Nathalie Guérard accompanied the Neeposh family daily during the entire course of the expedition. Her role as an observer and participant allowed her to capture the richness of the Neeposh's life. This moving story tells about their attachment to the land, their profound knowledge of it, and, most of all, how this all was part of the social and spiritual life of this community. The Neeposh family's goal in this project was to make known these deep values, which the environmental study coldly called an impact analysis.

To conclude the book's [first part](#), Alain Grenier in [Chapter 7](#) broaches the delicate subject of polar tourism and its impact on the environment, where there is a tension between being curious about an object and destroying it. He first places today's growing demand for eco-tourism in the overall debate about the environment. He questions how the words *adventure* and *expedition* are used in marketing by the tourism industry, and the roles these words play in our modern society. Grenier juxtaposes in his chapter two overall themes in nature tourism: valuing harmony with the surroundings and encouraging humans to conquer and dominate the environment. This chapter has insights invaluable to researchers fascinated by Polar regions.

The [second part](#) of this book covers extreme situations other than polar expeditions. Polar expeditions are a remarkable area of research, as we have

already stated. However, all extreme situations are fertile grounds for better observing and understanding the hidden workings of project management.

**Chapter 8**, by Frédéric Gautier, starts this section on extreme situations with a stage that comes before the project: the pre-project phase in an uncertain and risky environment. Using a literature review, Gautier proposes to go beyond the current limits imposed by project management in developing new products or services into what he calls “a project’s prehistory.” The pre-project phase is at the same time both a phase for exploration and a phase for preparation. It is based on lessons learned and aims to state the problem at hand and to allow the project to get underway. The author proposes in this chapter new systems to pilot projects that favor analysis and risk management.

**Chapter 9**, by Valérie Lehmann, is on a different note entirely. It humorously discusses mountain and rock climbing. “Lecture de voie” is a technique currently popular in this sport, and its translation from French means “Reading the way.” It is used to plan an ascent. But does this technique matter during the actual ascent? The chapter attempts to answer this question with reference to project management and rock climbing. And it does so with a good dash of humor.

**Chapter 10**, by Anaïs Gautier, is on reviewing experiences of rescue groups in extreme situations. Project management uses project assessments or post-mortems. In general, these processes allow the knowledge of individuals to be transformed into collective knowledge that can be distributed and leveraged. Gautier suggests a multidisciplinary and clinical approach to review experiences. This approach leads to a new dimension for learning that encompasses the organization and its context. This approach comprises four components: structural, cognitive, cultural, and regulatory. The author herself is a volunteer fire fighter, and she illustrates how this approach is used in fire and rescue services in France.

**Chapter 11**, by Cécile Godé, explores the mechanisms of coordination in extreme situations. In this case, the extreme situation is the French Air Force on its mission in Afghanistan. Innovative mechanisms were devised to call attention to individual and group competencies.

In **Chapter 12**, Tessa Melkonian and Thierry Picq propose an analysis of the components and dynamic processes that develop competencies on many levels (i.e., individual, group, and organizational).

With its provocative title, **Chapter 13**, by Markus Hällgren, is a profound reflection on what project management really is. Too often occupied with tools and processes, project teams often forget to focus their effort on the essential item, the team. Hällgren is Swedish and is a member of the Scandinavian School, which was the first to define a project as a temporary organization. His chapter follows in this line and emphasizes research on practices. In developing his approach, Hällgren examines a disastrous situation as recounted by its survivors, the 1996 Mount Everest expedition, during which a part of the team perished.

Not all projects place the lives of its participants in danger, fortunately, but here is a good example of an extreme situation that illustrates team phenomena. Markus draws lessons from it for researchers, practitioners, and teachers.

Finally, the book's third section brings together the different points of view presented at the round table that concluded the colloquium. The round table had five participants: four project management professionals and a psychologist who is also a professor of project management. This section contrasts with the preceding ones because it addresses questions about flexibility and control in relation to concrete situations in organizations. This perspective allows the problems taken up at the colloquium to be placed in the context of professional organizations. We believe this perspective is an indispensable component in understanding a complex phenomenon.

Gilles Garel and Pascal Lièvre conclude with a piece on the significance of the colloquium and this book. Linda Rouleau completes the book with lessons drawn from her own experience of the 2009 "Darwin" expedition to Patagonia.

This book, as well as the colloquium, attempts to be a dynamic exchange between researchers and professionals who deal with the management of projects and expeditions. We believe that combining these different perspectives can facilitate a new approach to manage projects better.

Polar expeditions and extreme situations are more than metaphors for managing projects. They are real experiences for understanding and transferring knowledge to other types of organizations. As the organizers of the colloquium and editors of this book, we are proud to share as much as possible these promising results from the work contributed to the colloquium. Our object is to encourage other researches to contribute through innovative approaches to the better understanding of project management dynamics. Following Bredillet's call to model in order to understand, this work is an attempt to recreate the individual, as well as the reflexive, actor in a paradoxical social context.

We have to thank all the authors who contributed to this book and participated in renewing project management by offering new and unexplored perspectives. We hope that the innovative approaches presented here can lead to a wider renewal in the field of project management.

– Pascal Lièvre  
– Monique Aubry

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– Monique Aubry  
– Pascal Lièvre





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