

NEW PUBLICATION: TECHNICAL ASPECTS OF AVALANCHE RISK MANAGEMENT

BY STEVE CONGER

The Canadian Avalanche Association is publishing a new document that represents the culmination of a project to revise and update the guidance that avalanche professionals in Canada use for avalanche risk management planning and operations. This document has relevance to the



American avalanche community as it provides a common lexicon and assessment structure that can work on both sides of the border. It describes the foundations of risk management as they apply to avalanches as well as drawing upon international risk management process standards. It presents, under one cover, a uniform treatment of both avalanche risk management planning and operations.

Distinction is made between the two: planning involves the study of avalanche hazard, risk, and/or mitigation for specific objectives. It is separate from avalanche operations in that the focus of the specific objectives are long-term, and result in maps, plans, and reports. Avalanche operations are seasonal activities that include avalanche forecasting tasks and the direction and implementation of short-term mitigation measures in order to achieve specific organizational objectives.

It offers a description of best practices at the time of publication including an overview of technical guidelines and typical applications for avalanche risk assessment and mitigation that includes:

- Managing uncertainty.
- Avalanche terrain identification, classification and mapping.
- Avalanche hazard and risk assessment concepts and systems.
- Assessment/decision aids.
- Mitigation options.
- Guidelines for use of avalanche terrain in Canada.
- Other considerations.
- Records and reports.

The focus of this publication is on what to do, not how to do it. Specific methods are referred to whenever possible, or included as an appendix.

For more information and to obtain copies of the documents as they become available, visit www.avalancheassociation.ca. ▲

Steve Conger has been a Professional Member of the American Avalanche Association since 1992 and a Professional Member of the Canadian Avalanche Association since 2007. He is one of five subject matter experts, who, with principal investigator Cam Campbell, are the editors of this document.

BOOK REVIEW OF AUTONOMY, MASTERY AND PURPOSE IN THE AVALANCHE PATCH

BY ALLEN O'BANNON

Bruce Kay, a former ski patroller and avalanche industry professional, has written a book that is right up my alley. I love reading about how we make decisions and what we can do to improve the process. *Autonomy, Mastery and Purpose in the Avalanche Patch* captures in one place a lot of the theory that is out there. It relies heavily on Daniel Kahneman's definitive *Thinking, Fast and Slow* and does a nice job of summarizing some of his important points, theory and strategies. If you ever wondered how our brains function to process information, make a decision and what system 1 and system 2 are, but don't have the time for Kahneman's tome then this is a book for you.

Kay has done more than simply summarize Kahneman's work though. He has captured a lot of the other research on pitfalls we can fall prey to, such as the Dunning-Kruger effect where we as humans often overestimate our knowledge, skills, and abilities.

Autonomy, Mastery and Purpose in the Avalanche Patch is really a book about why we as humans have a hard time making good decisions in very complex, low feedback, high consequence environments – such as avalanche terrain or say for instance global warming since he touches on this a bit as well. We learn how our subconscious works to sidetrack us into making decisions that if we were to look at them objectively – assuming it is possible to objectively analyze them – we probably wouldn't make.

Kay also gives us some examples in the form of true stories and mistakes he and others have made to illustrate many of the book's points. Nothing like learning from the mistakes of others.

I particularly liked the section on judgment, and while none of the information was new to me, I liked how Kay brought together a lot of the current thinking, and shows us why we are so

fallible and how our intuitions can lead us astray – or not. We learn that our subconscious has a lot more to do with our actions than we would ever want to know.

In the last two sections Kay also leaves us with some tools and ideas that can help us better frame the risks and possibly even get us to realize them. One that I have been using for a long time is the pre-mortem

where you purposely ask yourself and/or your partners what is going to go wrong with the decision you just made to ski a slope or whatever else you are planning on doing, the idea being to skeptically look at your decision to find the flaws in your assumptions.

At times I had a hard time following Kay's line of thought, especially in his first section "Landscape" where he is painting a picture for the reader of who we are and how we behave. There were also times when I felt I had come into the middle of a conversation that had been going on for a long time. And while the conversants knew all the background context, I was left to guess or figure out what I could about the conversation. For example, the Avaluator, which is one of the tools we should find useful, is not really explained and it is up to the reader to find an example of it at the back of the book. Luckily I have heard of the Avaluator and so had an idea of what it is all about and how it was developed, but for a number of readers outside Canada more detail would probably be appreciated.

Overall though I think most readers will enjoy the book as I did. Decision-making and judgment are huge fields of thought and research and Kay does a good job of presenting some of the most useful information for us. Lastly, if you are an avalanche educator looking to develop a class on human factors then you will find plenty of material here. ▲

Allen O'Bannon has been working in the cold for over 20 years and has been teaching about avalanches almost as long. A NOLS winter instructor since 1988, Allen has honed his educational skills and has taught at levels from avalanche awareness courses through level 3. He has worked as a guide and avalanche educator for Exum, American Avalanche Institute and Yostmark Backcountry Ski Tours. Allen has also spent five seasons in Antarctica doing safety trainings and guiding National Science Foundation research groups. He is the author of four books (the Allen and Mike Really Cool series) on camping and skiing.

