

A conceptual model of avalanche crisis management

Aurélie PEILLON¹
Sandrine CAROLY²,
Yann LAURILLAU³,
Didier RICHARD⁴

aurelie.peillon@univ-grenoble-alpes.fr

¹LIP PC2S, University Grenoble Alps
²Univ. Grenoble Alps, CNRS, Science Po Grenoble, PACTE, 38000
Grenoble, France

³Univ. Grenoble Alps, CNRS, LIG, 38000 Grenoble, France

⁴INRAE, Grenoble



Context: The avalanche management can be characterized as the ‘management of a dynamic risk’. The situation displays a great variability, therefore the stakeholders have to adapt and find solutions to face the different problems they can encounter.

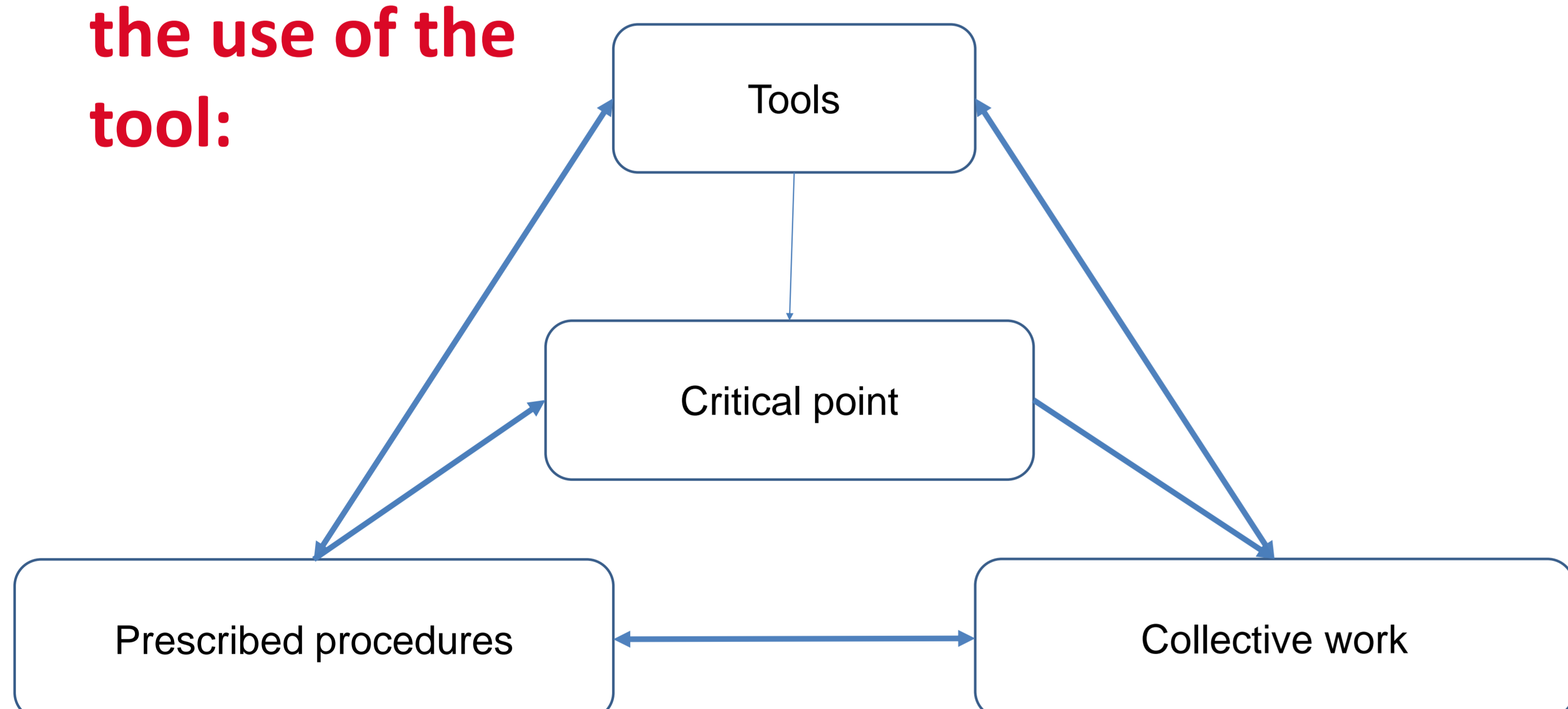
Objectives of the PhD:

- 1) **Modelling** of collective work during prevention and management of a crisis situation.
- 2) **Software** to help managing an avalanche situation.
→ Improve coordination between stakeholders.

Methodology:

- **25 interviews** of actors having a role in avalanche prevention and management.
- **Observations** during several weeks in 2 ski-resorts.
- **Video recordings** of rescue teams during a simulated avalanche situation and “self-confrontation” interviews.

Model – the use of the tool:



We have designed a simplified model for analysing different observed avalanche management situations. Thanks to this model, it is possible to:

- analyse the data collected in the field and organize them in a consistent and comprehensive way,
- identify the main issues that can be encountered by the rescue teams, in particular those related to the usage of specific technical equipment (ARB, radio, dedicated softwares),
- define the main actions undertaken by the avalanche rescue teams in order to face unexpected situations and tipping points, and deal with them in the most rapid and efficient way.

In the future, the model will be refined to account for the different frameworks of collective work that can be adopted depending on the issues encountered.

Three examples of the model

