

# TESTS MATERIAL AND CAVE RESCUE TECHNIQUES

By Christian Dodelin from France  
13 RISS cave rescue in Suisse





## The first searches concern the stretcher



Switzerland (1997)



Great Britain (1997)



Romania (1999)



Steinberg – Italia (2000)



Civière Castin (1976)  
France

- Stretcher
- Civière
- Camilla
- Maca
- Nosila
- Nosze
- Rettungstrage ...





Castin  
(1978)



TSA (1997)

**STRETCHERS in France,**  
from (Dr) Castin  
to the Nest by Petzl  
We pass by TSA of G. Marbach



Nest (2011)

The dates are those of pictures



**Petzl is doing the material specific for caving, bringing more safety and finding solutions for jammer, descender and pulley.**

**The conditions in the cave are hard with water and mud.**

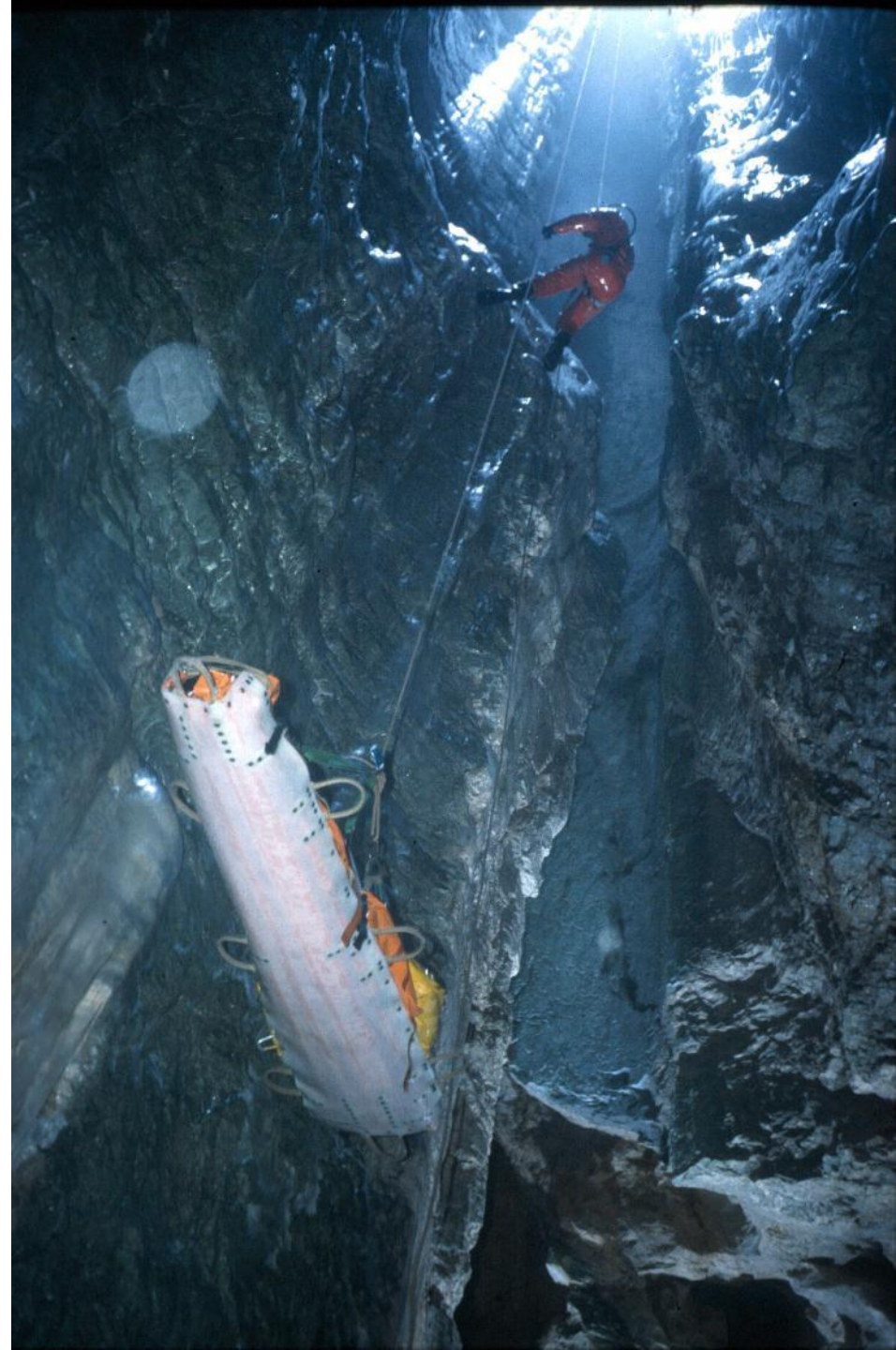
**In seventies G. Marbach published**

**« Techniques Speleo alpines »**

**He tests and studies the different types**

- of ropes
- Knots
- Anchorages...

**In « Spelunca », national publication in France, we find articles about tests on the new material.**



**In eighties, in vertical way, we use :**

- **2 ropes (traction and safety)**
- **The traction was only palan**
- **The deviation pulleys were fixed on the rock**

**To extract the pulleys we had :  
to take in charge the stretcher on  
one rope and keep other free just  
a short time and take of one pulley.  
Later we changed the tension on  
the rope for other pulley.  
2 teams at the top for each rope.  
The leader coordinate the exercise**







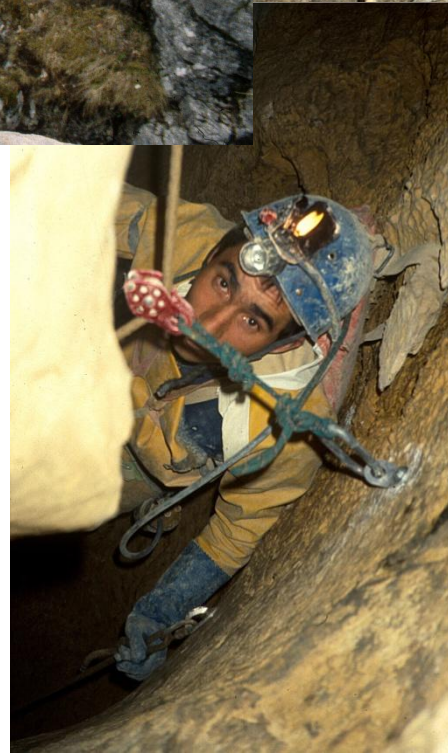
**Before the end of eighties :**

With the **Italian Knot** we have **releasable pulley**

We use several knots for anchorage

We test new **prototype of pulley** and agree the system **hauling with counterweight**

We use only one rope to support the stretcher on tyrolean





# TESTS by SSF on techniques and materials of cave rescue

1994 – 1996 – 2005 in laboratory of PETZL Establishment, at Crolles, France

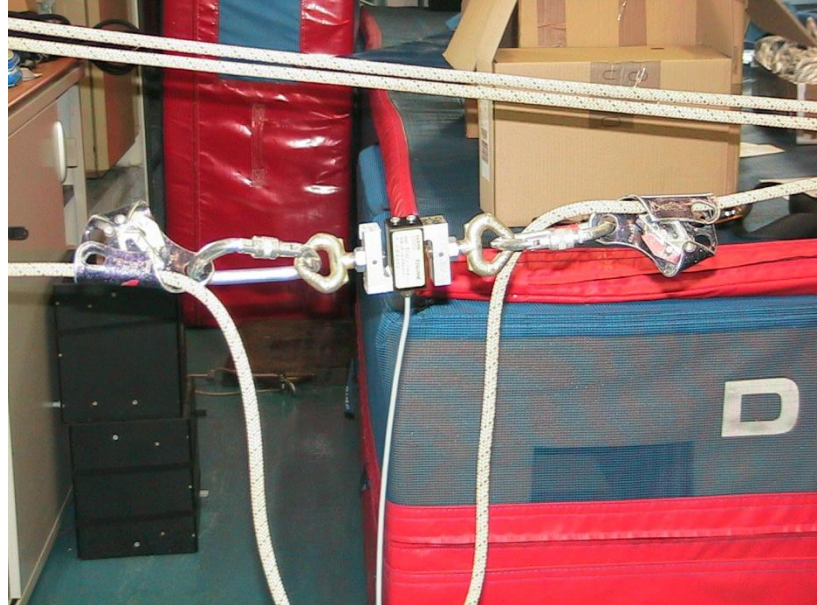




**We got informations during several minutes from 2 dynamometers in the same time with registration on computer.**

**We could have informations before, during and after a fall**

**We can put the material in the same configuration than in rescue operation**



**We took some used material of 2 ,5, 10, 15 years.**

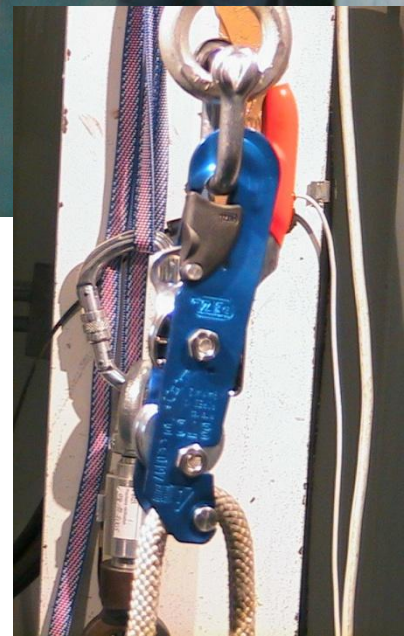
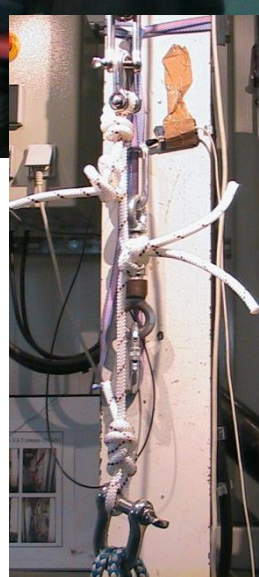
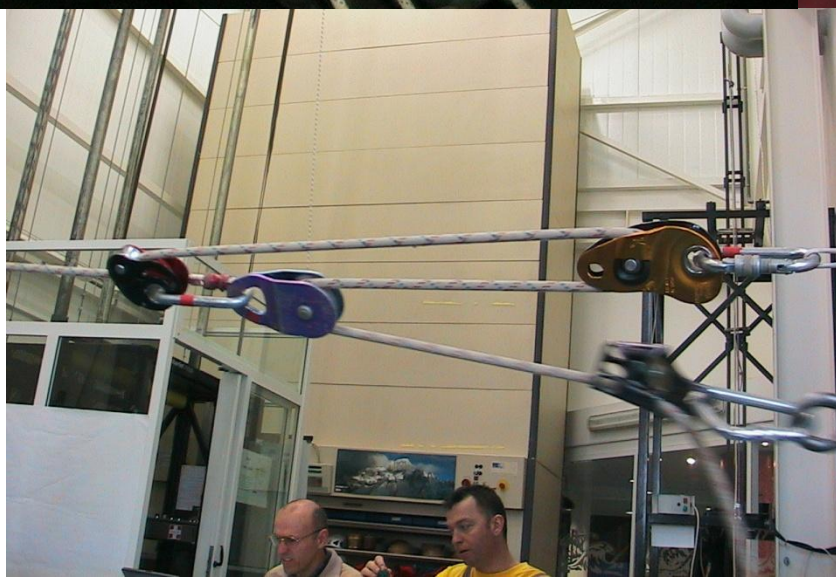
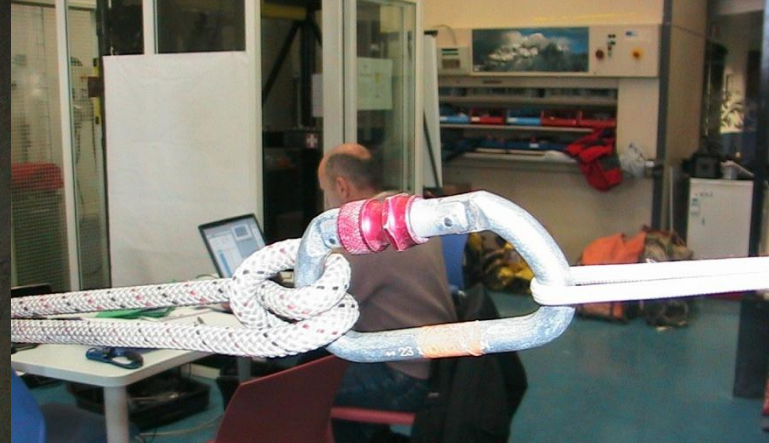
**(Ropes, carabineers, jammers, pullies, descenders,...)**

**On short distance the condition were unfavourable.**



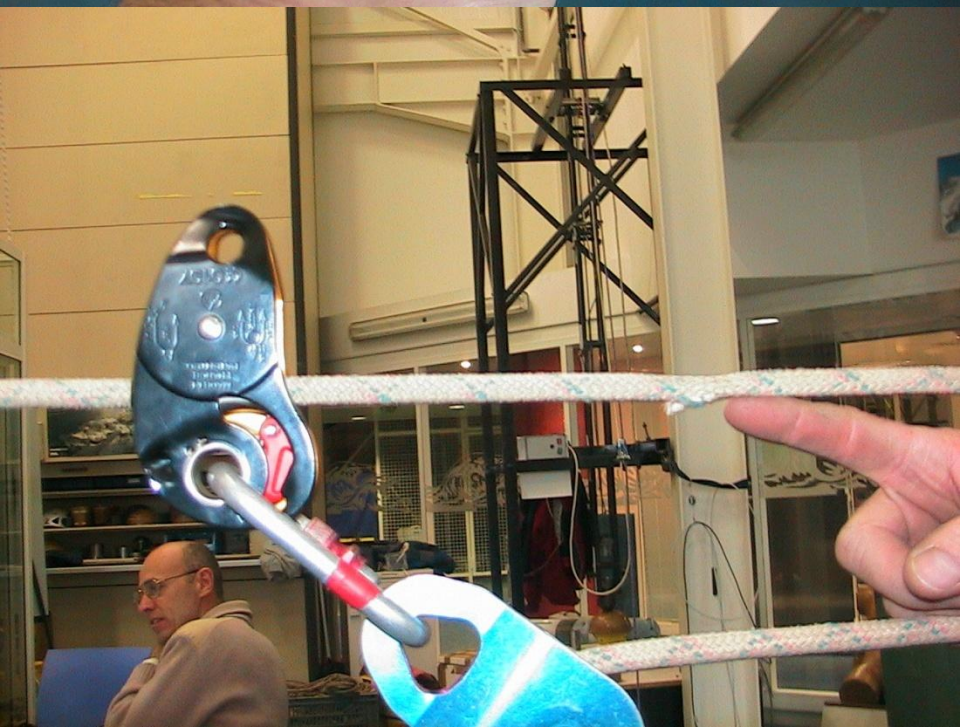
We tested : the three load sharing anchors,  
eight knot, rabbit knot, stopper knot,  
Changing the ropes with different diameters , ages,  
statics or dynamic, dry or wet,...

We tested different hauling techniques : Palan,  
Counterweights, tyrolean and different solutions  
for the tension of the rope....



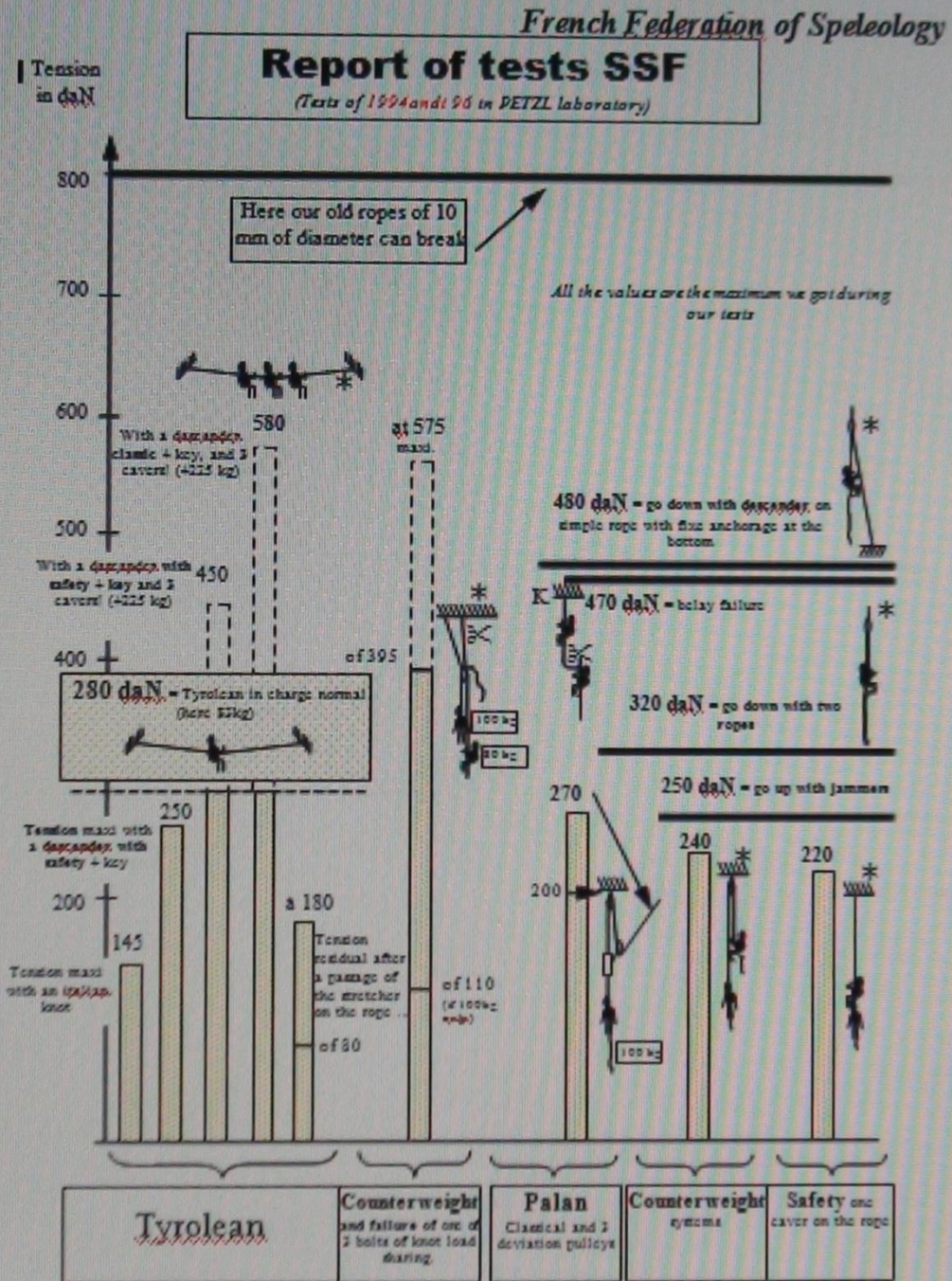
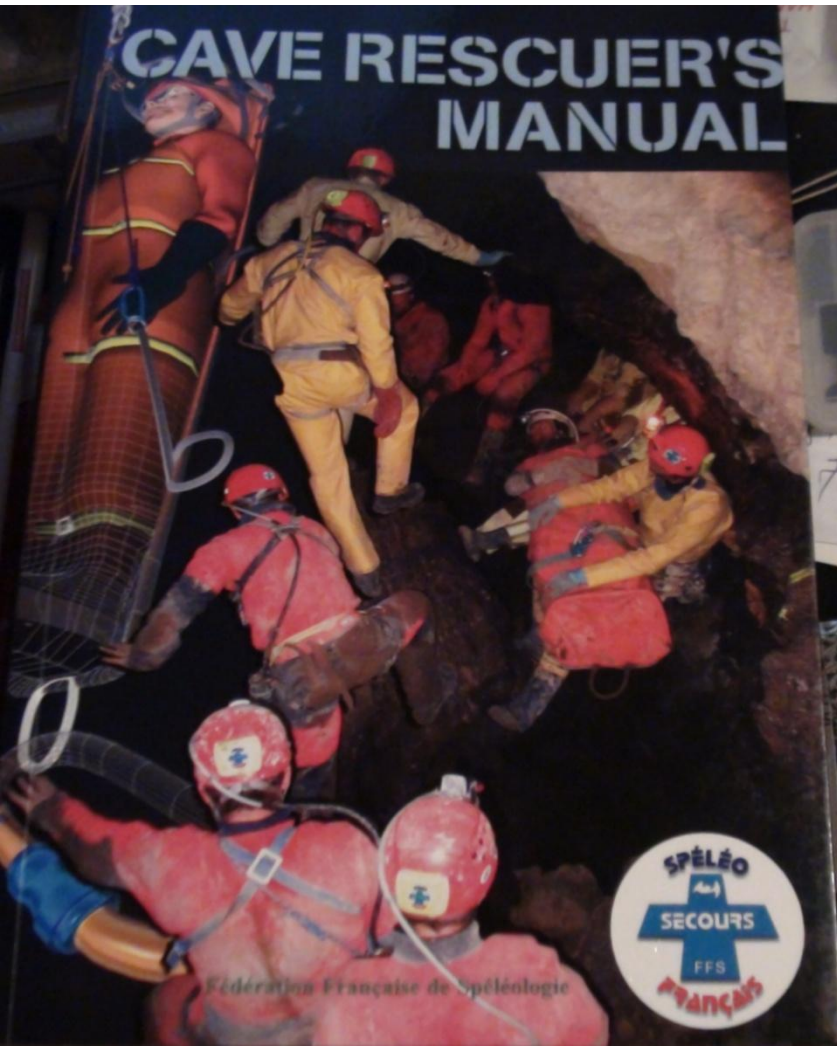


We could see the capacities and limits of the different equipments and their possibilities using.





Inside the « cave rescuer's manual,  
We have some results and technique  
indications





## 13 RISS cave rescue in Suisse- April 2015 about Material, Techniques and Tests in Cave Rescue

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Picture in 1992

