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THE UIS SYMBOL SET FOR CAVE MAPS AND ITS POSSIBLE EXTENSION FOR ARTIFICIAL CAVITIES

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Abstract

Cave mapping symbols had been unified and adopted by the UIS in 1999. They almost exclusively deal with natural caves, and artificial cavities (or human work in natural caves) are almost not considered. On request, the UIS working group now studies the possibility to add additional symbols specifically adopted to artificial cavities. The communication presents the symbol set for natural caves, the traces of human activity already included, and tries to present possible directions for symbols on artificial cavities.

Keywords: mapping symbols, UIS, add-on for artificial cavities.

Riassunto

I simboli utilizzati nella restituzione cartografica di grotte naturali sono stati unificati e adottati dall'UIS nel 1999. Si riferiscono quasi esclusivamente a grotte naturali, mentre le cavità artificiali (o grotte naturali riadattate dall'uomo) non sono pressoché considerate. Su richiesta, il gruppo di lavoro UIS studia ora la possibilità di aggiungere ulteriori simboli specificamente adottati per le cavità artificiali. Il contributo presenta il set di simboli utilizzati per le grotte naturali. Le tracce di attività umana in grotte naturali sono già schedate, mentre cerca di presentare possibili indicazioni sui simboli delle cavità artificiali.

Parole chiave: simboli di mappatura, UIS, aggiunta cavità artificiali.

Introduction

In 1999, the working group “Topography and mapping” of the International Union of Speleology (UIS) adopted an unified symbol set for caves and cave sediments (see HÄUSELMANN, 1999). This symbol set aimed at unifying and simplifying the different, sometimes confusingly similar, symbols used in underground mapping. The symbol set is now available in several languages on the Web (<http://www.carto.net/neumann/caving/cave-symbols/>) and is living in the sense that other languages can be adopted if volunteers want to translate them.

Symbols for artificial caves ?

However, this existing and well-used symbol set might not be sufficient when dealing with artificial cavities. While many different symbols are simply the same (passage walls, overlying passages, shafts and chimneys, lakes), might be rarely present but are similar (stalactites, helectites), all the specific information dealing with excavation methods (decrepitation, chiselling, dynamite, etc.), maybe also other information, is simply missing. The question is now whether there is a need to define an additional symbol set for such information, or whether it should rather be placed in the written description that should accompany each map (see, for instance, HÄUSELMANN, 2006, 2007, for the importance of good documentation), remains to be seen.

Presentation of the list in use

In the following pages, the presently used and accepted list is given (Figs. 1 to 6). Of all symbols, only the “scallop, flutes, paleoflow” as well as “Anastomosen, Karren” are likely to be never used in artificial caves; all the other phenomena occur possibly. On the other

hand, the symbol for “human activity” would have to be extended on the whole artificial cavities...

Your task !

If people working in artificial cavities feel that an additional symbol set should be added, then now is the time to proceed. The present congress is an ideal means to forward ideas and to discuss them. You are the specialists, your input is desired! If there is time and possibility, we might discuss additional symbols during a workshop in the congress, or more informally in an evening. Please contact the author in these cases.

Conclusion

Most of the topographic symbols used in natural caves can be used also for artificial cavities. However, the human excavation of the latter, and additional anthropogenic influence, might be represented by an additional symbol set for artificial cavities. The task is up to the people working in artificial cavities, with the UIS workgroup “Topography and mapping” happy to help.

Acknowledgements

Thanks to the efforts of Mario Parise, this first step towards an eventual symbol list for artificial caves has been done.

References

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- HÄUSELMANN PH., 2006, *Nachhaltige Vermessung von Höhlen*. Stalactite, vol. 56 (2), pp. 16-25.
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Cave Symbols - The official UIS Symbol List (State 1999 - voted by the national delegates)

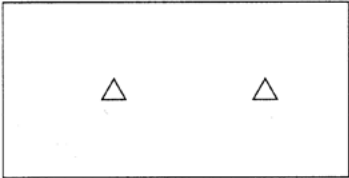

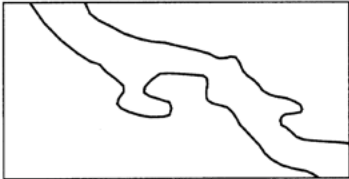
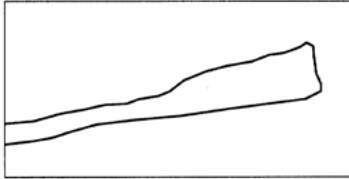
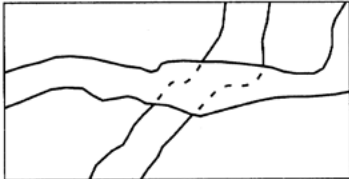
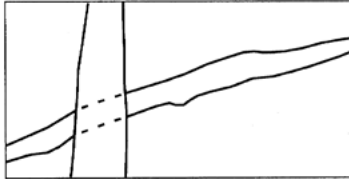
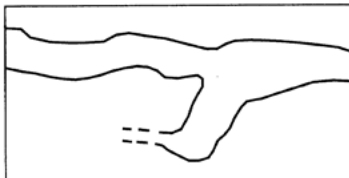
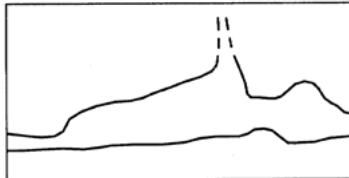
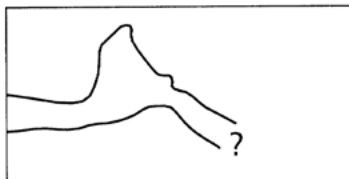
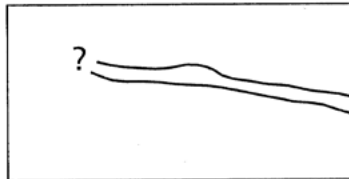
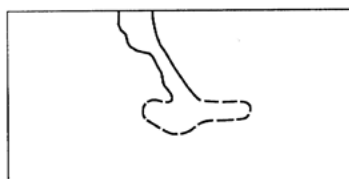
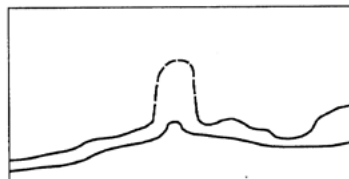
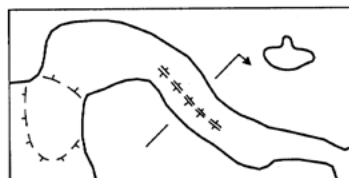
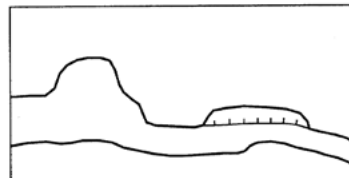
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Main Measuring Points		
Outline of a gallery		
Underlying galleries		
Too narrow continuation		
Continuation possible		
Presumed dimensions of Space		
Ceiling form		

Fig. 1: Cave map symbols of the UIS, sheet 1 - Fig. 1: simboli UIS per la cartografia di grotte naturali, foglio 1.

Cave Symbols - The official UIS Symbol List (State 1999 - voted by the national delegates)


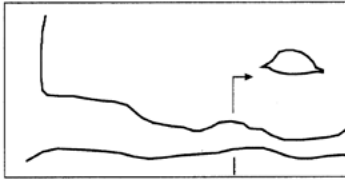
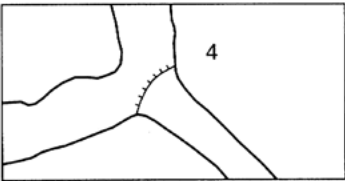
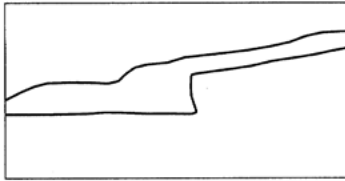
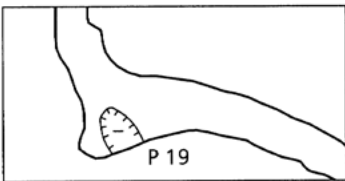
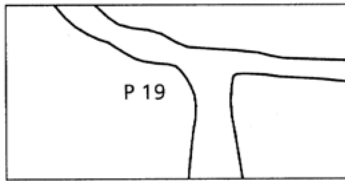
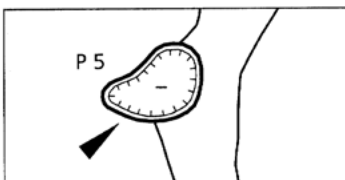
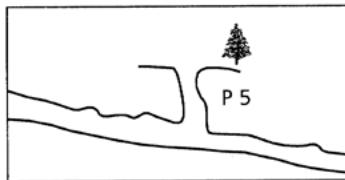
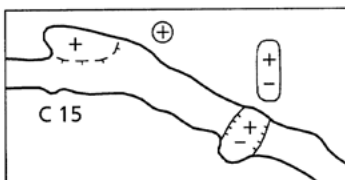
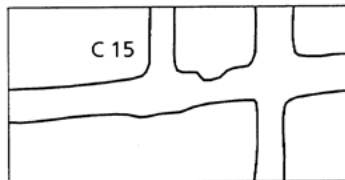
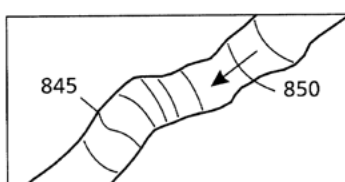
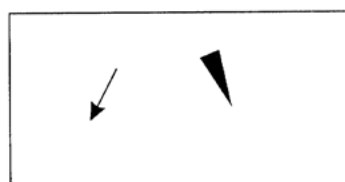

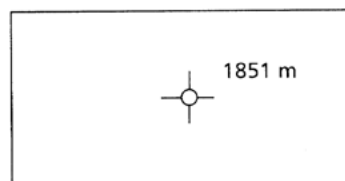
	Plan	Section
Dripline (beginning of the cave) - Profile (arrow in line of view)		
Step (height in meters)		
Pit (depth in meters)		
Pit open to the surface		
Chimney - Chimney-Pit		
Contourlines (altitude in meters) - Gradient arrows Entrance arrow		
Gradient Lines Altitude above Sealevel		

Fig. 2: Cave map symbols of the UIS, sheet 2 - Fig. 2: simboli UIS per la cartografia di grotte naturali, foglio 2.

Cave Symbols - The official UIS Symbol List (State 1999 - voted by the national delegates)

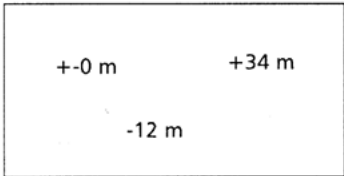
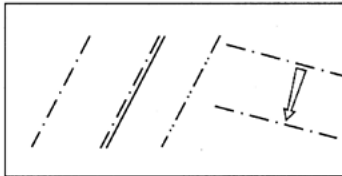
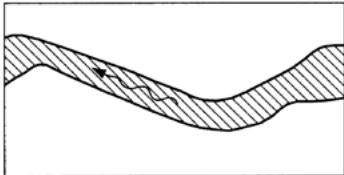
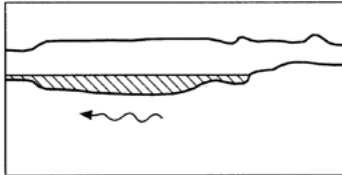
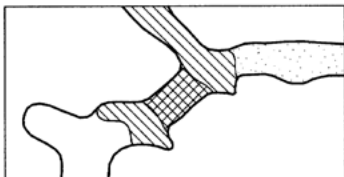
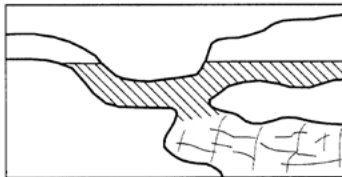
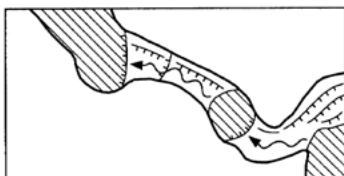
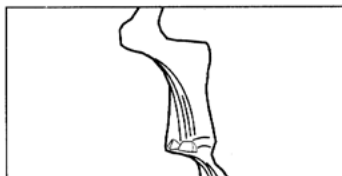
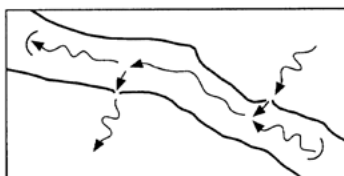
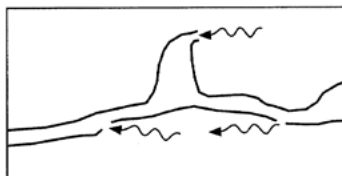
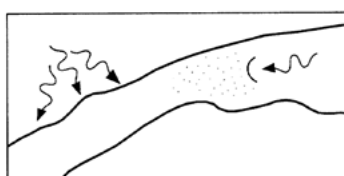
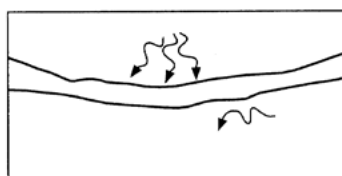
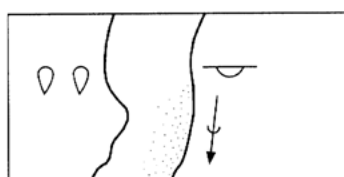
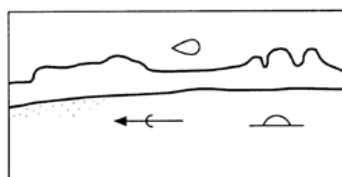
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Difference in Elevation (height in meters) - Joint - Fault - Inclined Joint		
Lake Flowing Water		
Sump		
Cascade Waterfall		
Spring - Sink		
Widespread Water Inlet - Seeping		
Scallops - Flutes in general - Direction of paleoflow		

Fig. 3: Cave map symbols of the UIS, sheet 3 - Fig. 3: simboli UIS per la cartografia di grotte naturali, foglio 3.

Cave Symbols - The official UIS Symbol List (State 1999 - voted by the national delegates)

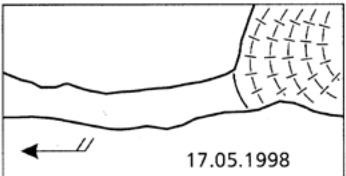
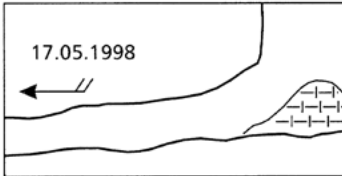

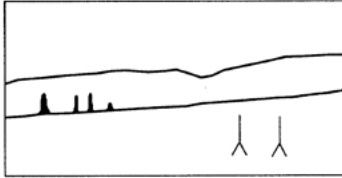
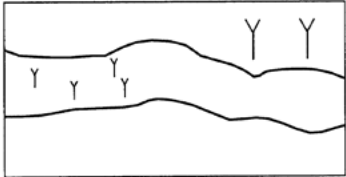
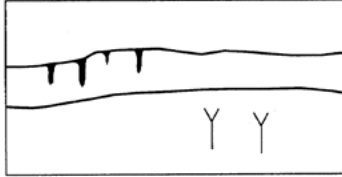
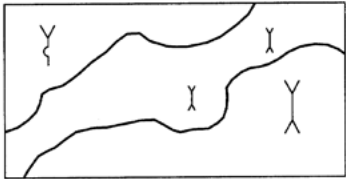
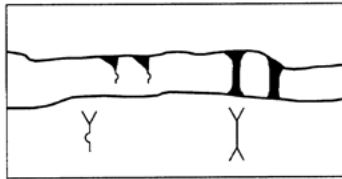
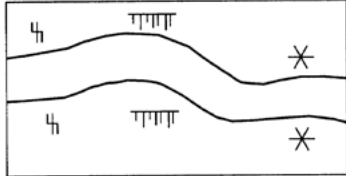
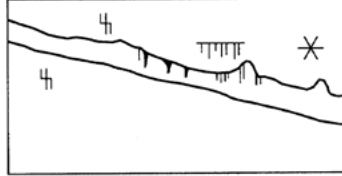

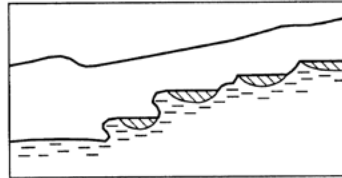
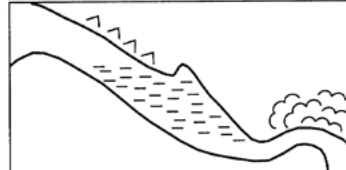
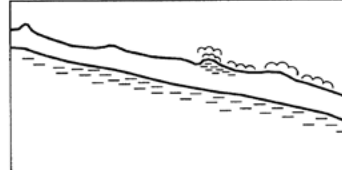
	Plan	Section
Air Draught (with date in dd.mm.yyyy format) - Ice-Snow-Firn		
Stalagmites		
Stalactites		
Sinter Curtains Pillars		
Helictites - Soda Straws - Crystals		
Sinter Pools		
Flowstone - Wall Calcite - Moonmilk		

Fig. 4: Cave map symbols of the UIS, sheet 4 - Fig. 4: simboli UIS per la cartografia di grotte naturali, foglio 4.

Cave Symbols - The official UIS Symbol List (State 1999 - voted by the national delegates)

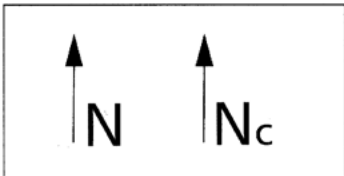
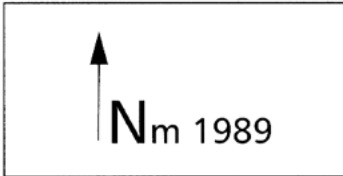
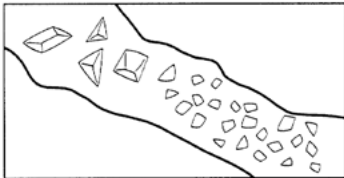
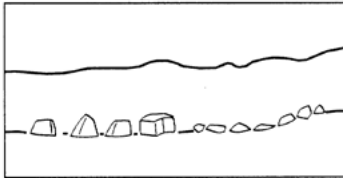
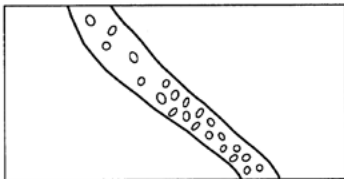
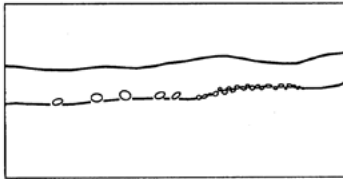

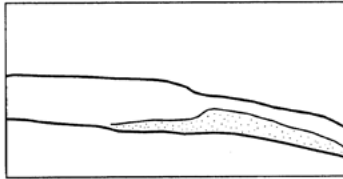
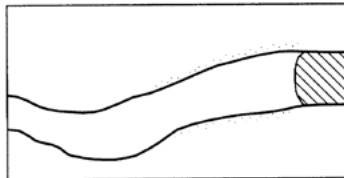
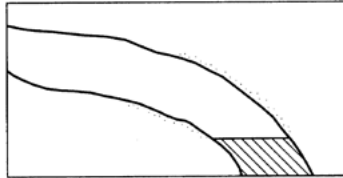

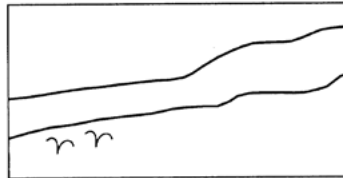
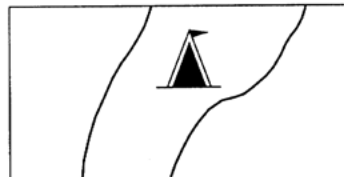

	Plan	Section
North Arrow - Geographic - Cartesic and Magnetic		
Blocks - Debris		
Pebbles		
Clastic sediments - Sand-Silt-Clay-Humus		
Claycovered Walls		
Guano		
Camp		

Fig. 5: Cave map symbols of the UIS, sheet 5 - Fig. 5: simboli UIS per la cartografia di grotte naturali, foglio 5.

Cave Symbols - The official UIS Symbol List (State 1999 - voted by the national delegates)

	Plan	Section
Anostomosen - Karren		
Cauliflowercalcite - Disk		
Bones		
Human Activity (artwork, drawing, pottery, old mining sites, human bones, ...)		
Height of a room (height in meters)		

Fig. 6: Cave map symbols of the UIS, sheet 6 - Fig. 6: simboli UIS per la cartografia di grotte naturali, foglio 6.