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CAVES AND KARST OF THE YORKSHIRE DALES, VOLUME 2: THE CAVES

Tony WALTHAM and DAVID Lowe (eds.), 2017

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141 maps and graphics, 627 photographs.
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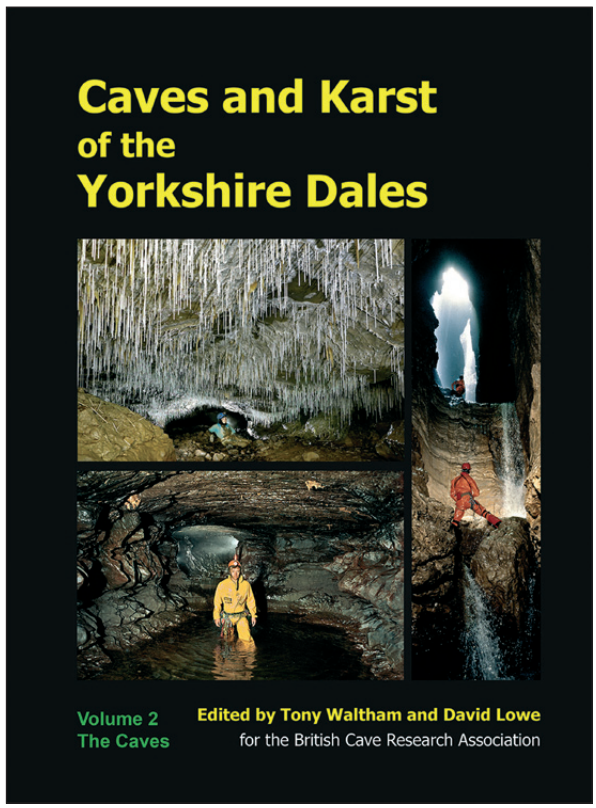

The book is the obvious complement and continuation of the first part, which was published in 2013[1]. One must emphasize that the two volumes are intended to be just the beginning of a series of similar publications that will cover all important karst regions in Britain. As before, the actual, paperback issue (hardback is also available) is in A4-format. In the future both volumes will be accessible as electronic versions, and some of the digital chapters will undergo revision if significant discoveries or scientific breakthroughs are made. The present Volume (2) consists of 17 individual chapters, each describing the known caves in a specific area of the north of England. The list of locations mentioned in the text comprises 7 two-column pages.

According to the editors, "*This volume is intended to present a definitive description of the main caves that were known, at the time of publication, in and around the Yorkshire Dales. There are still great lengths of cave passage awaiting discovery and exploration, and cavers can suggest where many could lie… indeed it is hoped that these pages might encourage new explorations by improving understanding of the Yorkshire Dales karst. Coverage within the volume extends outside the Yorkshire Dales in order to include nearly all the significant caves in the North of England.*

References to published works are intended to be comprehensive but not exhaustive; they include all the important sources, but omit many earlier sources that

[1] See: Šušteršič, F., 2015: Tony Waltham and David Lowe (eds.), 2013: Caves and Karst of the Yorkshire Dales : British Cave Research Association, 264 pp. Acta carsologica, ISSN 0583-6050, 44, 1, 145-146 pp. http://ojs.zrc-sazu.si/carsologica/article/view/2252/2040.

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are cited within their successors." Original or survey data were compiled from various sources; the main ones are listed in the Preface, with others in the Reference lists at the end of each chapter. A list of Acknowledgements just adds to the number of people "standing in the shadows". The list of caving groups that produced surveys contains 33 names, a noticeable share of them being university clubs. The number of photos (more than 100 contributors) is not just large – as is evident from the evolution of the cavers' gear, they cover a large time span; yet most of them have been upgraded and enhanced so well that one would hardly notice the age differences. "Between the lines" the reader becomes aware of the enormous amount of work, carried out over decades by many cavers and, in parallel, the high-quality scientific work that has built upon this foundation.

As stated, the central part of the book consists of 17 chapters (numbered from 17 to 33 inclusive because chapters 1 to 16 comprise Volume 1), dedicated to individual cave "regions". The titles speak for themselves: *Caves of Dentdale and Wild Boar Fell (17), Caves of Barbondale (18), Cave systems of Ease Gill (19), Caves of Leck Fell and Ireby Fell (20), Caves of Kingsdale (21), Caves of Ingleborough, (with sub-chapters: White Scars and Newby Moss, The Allotment and Ribblesdale, Chapel-le-Dale and Ribblehead) (22), The Gaping Gill Cave System (23), Caves of Pen-y-ghent and Fountains Fell (24), Caves and karst of Malham and Settle (25), Caves of Wharfedale and Littondale (26), Caves of Grassington Moor (27), Caves from Greenhow Hill to Cracoe (28), Caves of Nidderdale (29), Caves of Wensleydale (30), Caves of Swaledale (31), Caves of the Northern Pennines (32), and Caves of the North York Moors (33).*

General arrangements and layouts of the main chapters hardly digress from the template that was established in the first volume (see Šušteršič, 2015), though in Volume 2 there is a much greater consistency, with each chapter displaying the same "look and feel". Beneath this common look, each chapter points to individual cave systems or caves, reflecting the present "state of the art" in terms of exploration and understanding. Nevertheless, some details indicated by the authors and/or editors must be emphasized: *"Geological data are … adjusted to relate to the karst geomorphology. Some minor features, above and below ground, have been omitted to improve clarity, and cave passages are shown over roads and streams, even though they are underneath…"* In the view of the present reviewer such technical solutions may prove useful elsewhere too.

As with the first Volume, a number of boxed texts provide more detailed information about important local details. Boxes with historical contents dominate; but those concerning local geological settings and evolution, mineralogical and "mining" details, specific hydrological information, and so on are also included. This makes the book highly instructive for those cavers whose primary interest is in finding new passages by dint of physical efforts, as well as those who prefer some basic support from scientific knowledge.

One of the principal virtues of the book is the way that a mass of data is presented. The area maps and cave plans are not new surveys. They are compilations of the best available data. Having been prepared from multiple sources some original cave maps have been slightly distorted and adjusted to achieve a best fit. The compilation and unification have been so well done that most readers would hardly even think about the enormous volume of graphical work that led to their production. Geological maps are simplified and drawn in a way that makes them extremely easy to understand, especially when merged with the cave ground plans or/and the simplified lines of as-yet inaccessible hydrological connections. In the present reviewer's opinion, such adaptations could profitably be used as a general start-point by other authors preparing illustrations for future publications of this kind.

As said before (o.c., 2015), the authors and editors have achieved almost the ultimate embodiment of the genre. The book is organized in such a way that it will obviously become a standard for similar publications in the near future. At the same time, the richness of information is such (especially, if the series continues as planned) that in the near future no serious scientific book about speleogenesis will pass it by. For the present reviewer just one thing is lacking – a tabulated presentation of the main caves and their fundamental dimensional data (especially their total lengths), though obviously such compiled data are in some ways subjective as well as transient.

In the reviewer's opinion a digression is needed here, addressed primarily towards Slovene readers. Impressive 19th century examples from the Classical Karst of Slovenia and the Dalmatian hinterland made the Karst classical in the sense that most of the karst features around the world were automatically "tested" against the "classic examples", without questioning what is general and what is local. Likewise there is a danger that a treasury of highly convincing data, such as provided by the present Yorkshire Dales volumes, might subvert the current understanding of speleogenesis in other regions where the depositional and tectonic histories differ from those of the Dales. However, if general geological and climatological settings elsewhere are to some extent comparable to the Yorkshire conditions, such a warning is unneeded.

Even in the Dinaric context, the colour, scale and general design of the geological background could adopt the standards set in the present books. Nevertheless, important differences that will require different approaches

exist. Related to mid-oceanic development of the Adriatic carbonate platform, followed by the movement and subsequent rotation of the Adriatic sub-plate, the primary geological influences on cave and karst development differ radically from those in the Dales. In the Dinarides, predominantly pure limestone packages up to 7 km thick are the norm, and the closest outcrops of non-karstic rocks may be tens of kilometres away from a cave location. In zones of intensely fractured bedrock, caverns and chambers are generally far larger than those in northern England. Most of them owe their actual size, and the specific shape of the walls and ceilings to multiple localized collapse events. Consequently, the various types of fractures and fracture zones that are recognized in the Dinarides, directly leading to the location, formation, and final shaping of individual passages, would have to be marked on the maps in sufficient detail to be instructive. Evidently such details appear to be less important in the Dales, or perhaps the full significance of fracture zones has not yet been studied and described. Geomorphology may pose more serious "technical" questions. In the Dinarides the interaction between the actual surface shaping and the underlying caves appears to be far less intimate than it is in the Dales. But the main problem will remain the caves themselves. To a cartographer the issue of how to present actually fragmented, complex, phreatic caves, where the positions of individual conduit segments that formed at the same time may vary by as much as 300m vertically, is yet to be solved. The impressive number of caves, covered, say, by the Cave Register of Slovenia, is basically a reflection of intense fragmentation of cave mazes. The question remains of how best to illustrate how they inter-relate.

None of this lateral musing, however, detracts from the overall impression of the two volumes of "Caves and Karst of the Yorkshire Dales"… If the first volume provided a promising "entrada", the second one is the mighty "finale". One may only repeat (o.c., 2015): "*The aim of the book's publisher has been achieved in great style…*"

"*My congratulations to generations of cave explorers and researchers in the Dales! Just keep up the good work!"*

France Šušteršič