

to those dark days of April 1942.

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I dedicate this article to my dear sadly-departed brother Eric, who collected over 200 Baedeker guidebooks and gave talks on the Baedeker Raids.

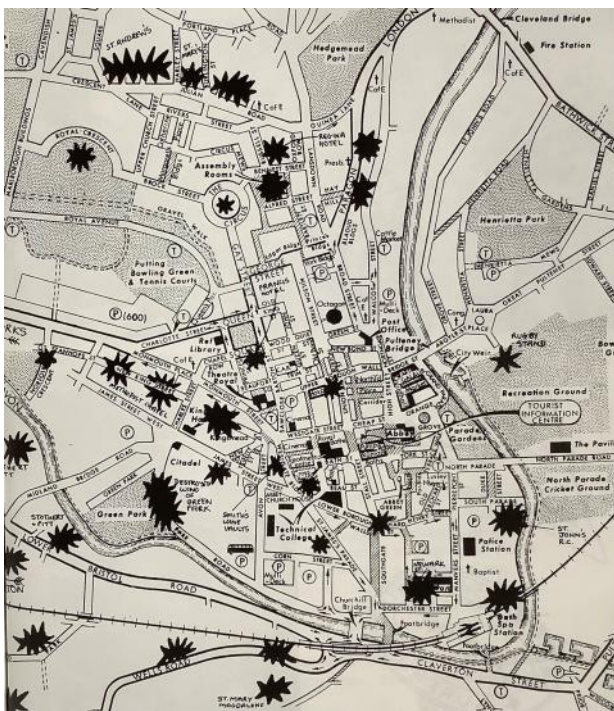


Fig. 22: Map of the bomb-sites in central Bath (from Wainwright 1992, with permission).

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## Bath Geological Society Journal Issue #1 – A Review

By Phil Burge

The Bath Geological Society was inaugurated on the 25<sup>th</sup> September 1970 with the first AGM held on 13<sup>th</sup> May 1971. It was not until 1981 that the first issue of the Journal of the Society was published. Before a review of the articles in this first issue a few interesting other items can be found. At the AGM in May 1971 the Society had funds of £209.49 and had 41 members. Including within the Journal was a note from the editors

*“In presenting the first issue of the Bath Geological Society’s Journal, we hope that readers will be inspired to contribute notes to future issues. In addition to reports of lectures and field excursions, it is hoped to publish notes on sites of particular interest and other contributions by members”.*

And an extract from the Proceedings of the Bath Natural History and Antiquarian Field Club, Secretary’s Report 1886 – 1887

*“The weekly walks have been kept up, but the secretary has not received any Notes respecting them, and concludes that bodily exercise, unaccompanied with any particular strain upon the mind by way of observation, was the chief object. As he is not always able to join these walks himself, he wishes members would from time to time send him some result of their meetings”.*

It would seem that encouragement to submit field trip reports was as necessary then as it is now! However, the depth and range of articles in the Journal (and Covid inspired Newsletter) since the Society’s first issue shows a great degree of enthusiasm and engagement with the

Journal. Our thanks to all contributors to the Journal in this 51<sup>st</sup> anniversary year and to the editors who put the whole thing together. It doubtless fills the editor with anxiety until the articles arrive in time for the publication deadline!

Here follows a summary of the articles that appeared in the 1981 issue of the Journal.

Dr D Parkin of Bath University provided the opening short article entitled “Cosmic Spherules”. These are the minute dust particles that are found in red clays on the ocean floor. Their composition is the same as the meteorites namely nickel, iron, olivine and pyroxene.

“Bath and Geology in the 18<sup>th</sup> Century” by Dr H.S.Torrens describes the burst in interest in fossils and fossil collecting arising from the quarrying of Bath Stone by those such as Ralph Allen in the early to mid 18<sup>th</sup> century. Collections of plants, fossils and minerals were common and discussed at meetings of various “philosophical societies”. John Walcott of Bath (father and son) were avid fossil collectors. John Walcott (son) published his “Descriptions and Figures of Petrifications Found in Quarries and Gravel Pits near Bath” in 1779 and priced as 2s 6d. His attempts at classification failed as the concept of extinction was not yet appreciated. Other notable members of philosophical societies and fossil collectors included Edmund Rack, William Herschel and Joseph Priestly. Economics in the form of coal extraction encouraged interest in stratigraphy including a geological map of the coal seams near High Littleton. Of course, William Smith played a huge role in the development of our subject and no more will be said as his story is well known except for the following quote from 1869 written by W.S. Mitchell. “Bath can claim that the first collection of fossils stratigraphically arranged was made by Smith whilst at Cottage Crescent. The first table of the strata was dictated by Smith at Putteney Street. The first geological map known is his map of the district around Bath. The first geological map of Britain was coloured by him whilst living near Bath. The first announcement of the publication of a geological map was his prospectus dated from Midford. The first introduction of his discovery to the public was through friends he made in Bath”.

Mr D Anthony wrote an article entitled “The Winning and Working of Fullers Earth”. This article describes a Fullers Earth mine at Combe Hay at a depth of 18 to 25 metres below the surface and capped by a thin limestone band below the Great Oolite. This deposit was worked by the Romans for cleansing cloth. The mine was active until 1981.

“Groundwaters, Ancient and Modern” by Dr J Andrews, Bath University began by describing the potential for geothermal energy for heating and electricity supply. Dr Andrews raised the possibility of obtaining heat from deep wells by circulating water between two wells. The author then describes the use of isotopes of tritium H3, carbon 14, helium 4, and uranium to date water. Using carbon dating places the age of the Bath hot spring water at 8 – 10,000 years old, suggesting that the water flowing today originated as melt water from the last ice age.

C.P. Horstmann wrote about “Mineral Micromounts”

which described a method of mineral identification that does not require thin sections, which are as the author suggests of no use in the field and collections of large crystals becomes problematic for the amateur collector. Micromounting refers to the mounting of small mineral crystals in a specific sized and prepared small box. Examination of the specimens can be done at a magnification of x10.

Further afield now to Hawaii and the “Geology of the Kilauea Volcano” by Dr C Wood of the Avon Wildlife Trust. The author explains that the sea mounts making up the Hawaiian group are made of basalt arising from mantle plumes and that the plate overriding the plume is moving in a south easterly direction. The author describes the various types of lava flow including Pahoehoe and Aa. Of particular interest is the description of cave systems not unlike those in limestones that had only recently been discovered.

“The Chesil Bank - An Account of a Lecture and Field Excursion led by Mr G.C. Poole” followed. The article opened with the statement that “the formation of the Chesil Bank has puzzled scientists for a very long time”. It would appear that this is still the case as judged by the discussion on the Bank during our recent field trip in June 2021! Without going into too much detail, Mr Poole’s thesis as to the origin of the Bank depends on the land geometry between Lyme Regis to Portland, a coastline of much faulting in hard and soft rocks but little folding; the accumulation of debris from melt water following the glacial and interglacial periods which were then submerged when the Straits of Dover were cut; and the effects of wind and wave power specifically the very long fetch from the Atlantic Ocean up the channel where the first resistance encountered is Portland Bill.

Mr C Copp, Bristol City Museum gave a lecture on the “Evolution of the Molluscs”. Tracing the ancestry of molluscs to 570 million years ago, the evolution from a basic body plan of head, foot, gills and a feeding organ and the origin of molluscs from worm like creatures was described. The original explosion of mollusc species in the Cambrian gave way to extinction of many in the Silurian. The three groups of molluscs, the Bivalves, Gastropods and Cephalopods are distinguished by their degree of mobility from sedentary to free living, fast swimmers. Mention is made of the living fossil *Trigonia* first found in Australian waters in 1820. A description of the evolution of the Cephalopods from the straight form *Orthoceras*, then the coiled *Nautiloids*, *Goniatites*, *Ceratites* and *Ammonites*. The worldwide nature of the free-swimming ammonites makes them invaluable as zone index fossils.

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