Book Review

Sunwaptan (Upper Cambrian) trilobites of the Cow Head Group, western Newfoundland, Canada

R. Ludvigsen, S.R. Westrop and C.H. Kindle. Palaeontographica Canadiana 6, 1989, 175 p., 50 pls., CA $33, softback, ISSN 0821-7556. Available from Canadian Society of Petroleum Geologists, No. 505, 206 7th Avenue S.W., Calgary, Alberta T2P 0W7, Canada or Geological Association of Canada Publications, Department of Earth Sciences, Memorial University of Newfoundland, St. Johns, Newfoundland A1B 3X5, Canada.

This monograph is the sixth in a world class series that has been published in Canada since 1983. The quality of printing and, in particular, the illustrations of this series have been outstanding; and the series, supported by the Geological Association of Canada and the Canadian Society of Petroleum Geologists, could claim to be the best produced paleontological monograph series in the world.

The sixth monograph, the object of this review, is a beautiful (if one ignores the almost garish orange of the cover) piece of work. The 50 photographic plates are superb. The text-figures, as is usual in publications involving these authors, are clear and interesting; but one could argue that a few have been reduced to a size where one almost needs to get out a magnifying glass to read the numbers (text-figures 3, 7, 8). The drawings of trilobites are clear and attractive; and they include a mixture of techniques.

This work is, in some ways, a labour of love. Cecil Kindle, often with his family, collected the trilobites from individual boulders in the Cow Head Group of Newfoundland over a period of around 50 years. Harry Whittington, a name known and revered among trilobite workers, and his wife Dorothy also shared in the collection of some of the material described in this work. Cecil's co-workers, Rolf Ludvigsen and Stephen Westrop, worked on this monograph in part because of their high regard for Cecil and in part because of the magnificent specimens that he managed to collect and prepare.

The monograph consists of a brief historical and stratigraphic introduction, followed by a section along the lines of the "Dual System of Biostratigraphy" advocated by Ludvigsen *et al.* (1986), and then an extensive section on Systematic Paleontology. The introductory and stratigraphic sections are short and concise. The section on biostratigraphy applies Q- and R- mode cluster analysis to collections of trilobites (mainly obtained from individual fossil-rich allochthonous blocks of limestone). These are analysed at both the family and species levels. Five biofacies are recognized and described, and 6 temporal faunas are identified. Although the numerical treatment is objective, the distinction of biofacies and faunas is clearly, in part, subjective in this work. The reader must assume that the choice of the boundaries of the 5 biofacies and 6 faunas is based upon Ludvigsen and Westrop's (these two workers are stated to be responsible for this section of the work) extensive knowledge of Late Cambrian trilobite faunas. Most of the collections represent individual allochthonous boulders that travelled from shelf marginal locations. A few of the boulders may come from more proximal locations or represent biofacies that were for some reason rare among the allochthonous collections. Almost 20% of the collections and almost 50% of the species analysed do not end up in one of the trilobite faunas recognized. Clearly, the allochthonous nature of these collections must produce data that are difficult to assign to a small number of readily recognizable faunas and/or biofacies. However, the biofacies and faunas recognized in this work will prove useful in Upper Cambrian stratigraphy of eastern North America. Useful correlations are made between the five faunas identified in this work and those that occur in strata of equivalent age in other more "interior" regions of North America.

The systematics section includes the recognition of 2 new families (one of these, the Phylacteridae, is a senior subjective synonym of the Cliffiidae of Hohensee in Hohensee and Stitt, 1989, by a matter of a few weeks - October 31, 1989 versus November 22, 1989), 6 new genera and 35 new species. The taxa are only assigned to family and superfamily level higher taxa, and systematic problems at subordinal and higher levels are ignored. This is quite valid since this is primarily a descriptive systematic work and not an attempt to solve the phylogenetic relationships of the Trilobita. The format of the systematic descriptions and remarks is traditional. Diagnoses and descriptions are clear and useful. The remarks sections comment on and offer solutions for a number of minor but important systematic problems. One of the new species, *Peracheilus insolitus*, although properly diagnosed and described was not considered worthy of any remarks. The morphology of this species is apparently so unusual, pointed out in the etymology of the name, that it is ignored also in the remarks under other species of this genus.

Who should buy this monograph? It is a necessary and vital work in the library of all Cambrian trilobite workers and all those of us with a general interest in trilobite systematics. It should be lodged in all important libraries. Canadians with a nationalistic interest in supporting an outstanding geoscience publication series should also purchase a copy. The specimens are exceptionally well preserved and beautifully illustrated; and some of them are even aesthetic and interesting, if not to say bizarre, in form. However, only a fanatical fossil hound would consider this book a coffee table book for casual browsing. It is an important, beautifully produced research monograph, whose value and use should outlast us all.

ATLANTIC GEOLOGY
27, 79-80 (1991)

0843-5561/91/010079-2$1.30/0

HOHENSEE, S.R. and STITT, J.H. 1989. Redeposited *Elvinia* Zone (Upper Cambrian) trilobites from the Collier Shale, Ouachita Mountains, west-central Arkansas. Journal of Paleontology, 63, pp. 857-879.

LUDVIGSEN, R., WESTROP, S.R., PRATT, B.R., TUFFNELL, P.A., and YOUNG, G.A. 1986. Palaeoscene #3. Dual biostratigraphy: zones and biofacies. Geoscience Canada, 13, pp. 139-154.

Brian D.E. Chatterton
Department of Geology
University of Alberta
Edmonton, Alberta
T6G 2E3, Canada