ECONOMIC DEPOSITS AND THEIR TECTONIC SETTING

‘On a high ridge between the two countries grows a tree that bears red blossoms on the Siamese side and white blossoms on the Perak side. When the red blossoms fall they turn to gold, the white blossoms on the Perak side fall and turn into tin. Could anything be more satisfactory? This theory is worth a whole book on the pneumatolytic genesis of tin, and on the question whether the gold is of magmatic origin or laterally secreted.’

(J. B. Scrivenor, *A Sketch of Malayan Mining*, 1928, p. 9;
quoted by Hosking, 1973a)

Economic Deposits and their Tectonic Setting

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Preface

The great majority of university teachers continually express their dissatisfaction with the available textbooks, and economic geology is not unusual in this respect. The present choice is rather limited — the best available texts are either somewhat outdated or not sufficiently comprehensive. This volume is an attempt to rectify this unsatisfactory situation.

The collections of papers edited by Strong (1976) and Tarling (1981), and the outstanding work of my friend Andrew Mitchell (for example, Mitchell, A.H.G. and Garson, 1976) gave the impetus for me to write this text. It was felt that more modern tectonic terminology needs to be used in the interpretation of ore deposits. This book describes the spectrum of ore deposits, coal, oil and gas, and attempts to say something meaningful about their tectonic setting. There is no separate discussion of the theory of plate tectonics, for it is felt that by now most readers will be familiar with the broad concepts. For those who are not, an introduction may be obtained from Bird (1980). However, at appropriate places, certain aspects of plate tectonics are amplified, wherever they are thought to be relevant to the understanding of the particular deposits.

The book is not aimed at students beginning the study of geology, and it is assumed that the reader will already have a broad geological background. The book is comprehensive enough to form the basis for either a one or two semester undergraduate course in economic geology. Primarily it is aimed at senior undergraduates; there is no discussion of ore mineralogy and ore petrology, which are well described by Ramdohr (1980) and Uytendogaart and Burke (1971), but emphasis is placed on the geology and details of the deposits themselves. It is hoped that the text will provide a valuable reference for graduate students and practising geologists employed by surveying and commercial companies. With this readership in mind, I have attempted to include a comprehensive up-to-date list of nearly 1000 references to guide the reader to deposits other than those selected for amplification in the text.

One thing became obvious during my writing — that it is possible to keep abreast of the rapid developments in the field of economic geology through the pages of two outstanding journals: *Economic Geology* (abbreviated to *Econ. Geol.* in the text) and the *Bulletin of the American Association of Petroleum Geologists* (abbreviated to *Amer. Assoc. Petrol. Geol. Bull.*), both of which are highly recommended.

In conclusion, the general textbooks detailed in the following references provide useful additional reading on mineral deposits: Lindgren (1933), Bateman (1950), Routhier (1963), Park and MacDiarmid (1970), Stanton (1972), Smirnov (1976), Dixon (1979), Jensen and Bateman (1979) and Evans (1980). Additional reading on fossil fuels is detailed in: Stach *et al.* (1975), Tissot and Welte (1978), Tiratsoo (1979), Crelling and Dutcher (1980) and Hobson and Tiratsoo (1981).

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