Book Review

Daniel James, ed., *Strategic Minerals: A Resource Crisis* Council on Economics and National Security, Washington, 1981

Strategic Minerals: A Resource Crisis reports the papers and panel discussions of a conference held under the auspices of the Council on Economics and National Security (CENS), a project of the National Strategy Information Center, on 22 May 1981.The major participants, for whom short biographies are included, represented a variety of political, strategic and commercial interests. Furthermore they adopted a range of approaches to the presentation of the problems, and, consequently, a particular strength of the book is the wide spectrum of thought focused on the central issue of strategic minerals.

The book begins with three short pieces, a forward by Conference Coordinator Daniel James, the welcoming address by Arthur D. Taylor and the opening address by Louis W. Cabot, sketching in and outlining the overall crisis in strategic minerals. The remarks concentrate on the United States, its viewpoint and its specific difficulties, two threads which run through the whole book. The key problems are the constraints affecting home production and the dependence upon foreign sources, acknowledged as early as 1952 and reiterated by Mr. Cabot:

> The overall objective of a national materials policy for the United States should be to insure an adequate and dependable flow of materials at the lowest cost consistent with national security and with the welfare of friendly nations.[1]

The major portion of the book is divided into five sections covering the following topics: (a) defining the resource of war, (b) the role of business, (c) national security, (d) a national minerals policy and (e) the law of the sea. Each section includes a variety of contributions and therefore requires separate appraisal.

What is the Resource War?

The opening paper by Rear Admiral W. C. Mott (Executive Director, Council on Economics and National Security), based on a series of slides which are reproduced in the book, sets the tone with a wide-ranging, if somewhat idiosyncratic and uncritical, view. Brief mention is made of the Soviet threat to oil supplies from the Middle East; key "choke" points are identified. One such point coming in for special mention is the island of Socotra (South Yemen) which Admiral Mott classifies, with no presented evidence, as a "big Soviet base."[2] It is doubtful whether any major improvements have been effected there as yet and, with facilities available at Aden, the island must be considered more in the light of a long term investment should there be a political reorientation in South Yemen.[3]

Using US import dependence as the criterion, the four most vulnerable strategic minerals are identified as cobalt, chromium, manganese and the platinum group metals. The contrasting dependency of the West and the USSR is highlighted, but the different problems of supply, now and in the future, for each of the four minerals are not mentioned. The vital role of South Africa is stressed as both a source and a transporter, through its rail network, of strategics. However, as in several other recent publications, the number of ships, which Mott places at 26,000 per year, using the Cape Route is exaggerated.[4] The latest figures produced by the South African Navy show that 6,500 vessels sailed the route last year.[5] In contrast, the importance of Richards Bay north-east of Port Elizabeth, illustrated but not gifted with a reference in the text, needs further mention. It is a major port development and is by far the main chrome exporting point.[6] In the near future it will be the only chrome shipment port and, consequently, its proximity to the Mozambique border (approximately 80 km) must give cause for concern. Finally, while the slides are generally very good, Mott's case is not helped by the obvious discrepancies in the lists of key US suppliers, particularly of manganese. The relative importance of South Africa as a source of this mineral is a significant and contentious issue.

In broad terms, nonetheless, the paper provides a useful introduction to the subject and strikes the right note of urgency, concluding with a list of the major problems to be faced.

After a rather pedantic, and somewhat unnecessary comment on the definition of resource wars, Dr. D. I. Fine (Mining and Minerals Resources Research Institute, Massachusetts Institute of Technology), provides an excellent and tightly structured summary of problems with strategic minerals. He identifies as areas of concern: (a) pre-emptive resource contracts, (b) ownership of resources, (c) transation strategies, (d) delivery system security and (e) security at harbours and loading facilities. Toward the end of his remarks, he speculates about possible targeting of South African chromium when being off-loaded at Maputo (Mozambique), but it is intended that the Maputo facility will be closed in any case and there is ample room at Richards Bay to handle all exports.[7]

During his closing observations, Dr. Fine also indicates that with rising energy costs beneficiation (the reduction of raw ore into metals) is increasingly expensive, and producers with energy available will be at a great advantage. Any moves towards beneficiation at source would enhance the position of South Africa as a supplier of, for instance, ferro-chrome and ferro-manganese.

The Role of Business in the Resource War

The importance of a strong and buoyant industrial base in the US is stressed throughout the discussion regarding the function of business in a resource war. Panelist Dr. S. D. Strauss (Chairman,

Minerals Availability Committee, American Mining Congress), recalls the distinction, originally and usefully applied in World War II, between the terms strategic (import dependent) and critical (concerned with defence), although he notes that many minerals quickly became best defined by both terms. A further term might now be employed to indicate limited world resources of certain materials. Of vital significance to US planning is the current lack of domestic production of manganese chromium, cobalt, and platinum group metals. However, there is a chance to reduce import dependency by developing potentially viable sources of cobalt and platinum although this type of mining is only likely with a guaranteed floor price. On the other hand, while there are large US resources of manganese and chromium, the quality is poor and, thus, insufficient for domestic purposes. As a consequence, Dr. Strauss feels the need for both a workable and consistent stockpile policy,[8] as well as a planned development of possible US sources. This paper provides an amplification of certain points left undeveloped by Mott.

Several of these issues are taken up by Dr. A. L. Bement (Vice President, Technical Resources, TRW Inc.), who confirms, short of major seabed mining, the continuing US reliance upon imports of these minerals. Therefore, as he indicates, prices are critical and are likely to be affected by such factors as temporary supply disruptions, conflicts and large scale geopolitical changes.[9] In developing this theme, Dr. Bement touches on several key topics such as the defence of offshore facilities and the lead times attendant in using semi-processed material from a stockpile. It is concluded that the levers of power are with the suppliers, and this must be appreciated by business and industry.[10] There then follows a very detailed and elegantly constructed check list for business under the headings: planning, procurement and technology. For example, Dr. Bement points out, to ensure procurement, a mineral must to be traced back along its trade route to the mine from which it originated so that vulnerable locations can be identified. While, recently, articles on sea lanes have proliferated, discussions regarding land corridors have been very limited.[11] Dr. Bement's other suggestions are equally insightful and intriguing.

The concluding work in the section, by Dr. W. O. Baker (former Chairman of the Board, Bell Laboratories), investigates scientific developments which could result in other minerals being designated strategic. However, with the sole possible exception of palladium (a platinum group metal), nothing mentioned would appear to involve any great difficulties even with reasonable future projections.

Discussion revolves around three main problem areas: (a) conversion capacity, (b) market cycles and (c) potential displacement from non-essential uses.

The Resource War and National Security

This section relates, with little actual reference to strategic minerals, the general US security position in the light of Soviet advances, Third World nationalism and the threat of cartels. Dr. W. R. Van Cleave (Director, Defense & Strategic Studies Program, University of Southern California) shows that the present military imbalance represents the fruition of Soviet modernization programmes. It follows, therefore, that towards the end of the decade, obsolescence, particularly in the US fleet, will become a major problem. As it is reasonable to assume that this is foreseen by the Soviets, the immediate future might well be an unstable period.

At present, as Dr. Van Cleave indicates, economic problems in the USSR tend to be offset by military activity made possible by the capacity for force projection. There is a useful section of the 'correlation of forces,' providing a vital reminder to the West that, while maintaining a nuclear answer, adequate general forces should not be neglected. This was recently illustrated most dramatically by the problems of the British task force in the Falkland Islands.

In his contribution, Dr. A. J. Cottrell (Executive Director, Maritime Studies, Center for Strategic and International Studies, Georgetown University) concentrates on the Middle East and the Indian Ocean. Such vital strategic topics as the Rapid Deployment Force, Diego Garcia and the sale of AWACs to Saudi Arabia are discussed.

Admiral M. Johnson (Former CINC South, NATO) relates the history of relevant treaties, particularly those stemming from UN Article 51, and bemoans in detail the area limitations of NATO.[12] He concludes that a new Oceanic Alliance based on Article 51 is vital.[13]

A series of brief comments and questions underlines the crucial point that, while the US can offer diplomatic and economic ties, the Soviet Union is virtually limited to military aid. This is clearly seen in many parts of Africa.

Generally this is a rather limited section with few new ideas and little attempt to link the papers directly to considerations of strategic minerals. More concentration on key sealanes like the Cape Route might have been more appropriate.

Towards a National Minerals Policy

Hon. H. H. Schmitt (Chairman, Subcommittee on Science, Technology and Space, United States Senate), the keynote speaker and a man with an unique viewpoint, provides in an interesting and discursive paper—a sound commentary on Congressional interest in strategic minerals. While acknowledging the complexity of the problem he considers a national strategic minerals policy to be vital. This section, although of a general nature, is useful in placing the debate in its domestic political context.

Is the Law of the Sea Treaty Viable?

With the Administration's decision on renegotiation, the law of the sea has become a hotly debated political and strategic topic. Discussion ranges from the rights of ship passage to the problems of landlocked states. However, the issue of seabed mining and, associated with it, production control necessary to ensure the viability of Third World landbased production, is of particular significance.

The three participants in the final panel furnish, among them, evidence for both sides in the debate regarding the relative importance of the two key issues: (a) access to seabed minerals and (b) freedom of navigation.

Dr. J. N. Moore (Director, Center for Oceans Law and Policy, University of Virginia) traces the history of the UNCLOS III negotiations and sees them as part of the world-wide struggle for law and power. As such they are very relevant to the North/South debate. He sets out both sides of the argument. R. A. Legatski (Counsel, Ocean Industries Association) illustrates the case for the importance of access to minerals by citing the problems, technology transfer, patents, economic competition and defence sensitivity, industrial interests might otherwise have to face. B. H. Brittin (Member of Board, Citizens for Ocean Law), on the other hand, considers freedom of navigation to be more the important issue since shortages can be offset by stockpiles, and seabed mining is, in times of hostility, extremely vulnerable.

This section is clearly of great significance for future developments in the field of strategic mineral exploitation. The discussion makes lively and compelling reading, providing a succinct summary of the major points frequently under examination.

For the layman, the book provides a first class background to most of the major facets of the resource war. For the expert, the treatment is somewhat uneven although the breadth of coverage alone makes this a worthwhile volume. The papers by Fine and Bement together with the UNCLOS III debate are particularly valuable.

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Footnotes

1. United States, Paley Commission, *Resources for Freedom*, 1952, quoted by Louis W. Cabot, "Opening Address," in Daniel James, ed., *Strategic Minerals: A Resource Crisis* (Washington: Council on Economics and National Security, 1981), p. 16.
2. Personal communication between reviewer and International Institutional for Strategic Studies, London, January, 1982.
3. S. Waterman and N. Eliot, eds., *The Strategic Significance of the Cape Sea Route* (London: Croom Helm, 1982), (in press).

4. For example, Patrick Wall, ed., *The Southern Oceans and the Security of the Free World* (London: Stacey International, 1977).
5. Oral communication between reviewer and the South African Defense Headquarters, Pretoria, March 1982.
6. Oral communication to reviewer regarding Richards Bay, April 1982.
7. E. W. Anderson and G. H. Blake, "Strategic Minerals and South African Vunerability," Rept. #3, Ministry of Defence, 1982 (in press).
8. D. E. Fink, "Availability of Strategic Materials," *Aviation Week and Space Technology* (5 May 1980).
9. J. T. Bennett and W. E. Williams, *Strategic Minerals: the Economic Impact of Supply Disruptions* (Washington: The Heritage Foundation, 1981).
10. See, C. De Vure, "Strategic Minerals: A Present Danger," *Signal* (January 1981).
11. E. W. Anderson, "The Need to Safeguard the Supply of Strategic Minerals to the West," in Geoffrey Stewart-Smith, ed., *A Global Strategy for the Defence of World Freedom* (Foreign Affairs Publishing Co., 1982).
12. Western European Union, Assembly, *European Security and the South Atlantic*, Doc. 888, 26 October 1981.
13. See, F. R. Barnett, "A New Strategy for the West," *Optima* (1981).