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Recent meetings

Antarctica: An exploitable resource or too important to develop? Institute of Commonwealth Studies, London. 21 February, 1990.

C.P. Snow would have been pleased by this conference, Karl Marx less so. Snow's two cultures both turned out in force, and proved his thesis by airing very different concerns; devotees of Marx's conspiracy theory delved without success for evidence of a hidden agenda for the exploitation of Antarctica.

The occasion was a one-day discussion meeting on the exploitation of Antarctica, organised by Professor Tom Millar and Dr Grahame Cook of the *Sir Robert Menzies Centre for Australian Studies*. It was the latest in a number of meetings exploring areas of bilateral concernbetween Australia and the UK, and the second in the series to deal with Antarctica. The meeting was given added spice by the Australian government's recent refusal to ratify the CRAMRA agreement, and the British government's championship of these measures. The conference brought together scientists, politicians, diplomats, representatives of a number of environmental organisations, and some journalists. British participants dominated, but in addition to the Australian delegates, there were representatives from official organisations in Finland, France, New Zealand, Norway, Sweden, and West Germany.

After a brief welcome from Professor Millar, proceedings began with an introduction by Mr David Mason, political counsellor at the Australian High Commission in London. He presented a historical analysis, dividing the history of Antarctica into four phases, beginning with the heroic age of exploration. He saw us standing on the threshold of the fourth age: a time of uncertainty for the Antarctic Treaty System, and of growing public awareness of the importance of Antarctica to the global environment. This uncertainty could be summed up by the title of the meeting.

The next two talks provided the hard core of fact for the meeting. Dr Richard Laws, former Director of the British Antarctic Survey, gave a summary of the environment and science as an Antarctic resource. He demonstrated the inter-relationships of various physical and biological systems, both within the Antarctic and globally. This presentation covered a wide range of science, and was an authoritative statement of the rationale for studying the natural sciences in Antarctica. The next talk, by Dr Robert Willan of the British Antarctic Survey, was a forceful presentation of the geological realities underlying the stories of the imminent pillage of the Antarctic treasure chest. He demonstrated clearly that most reports of "Antarctic mineral resources" are based on improper terminology, mistaken mineral identification, incomplete analysis, and faulty modelling, compounded by a natural human desire to imagine Eldorado in every unexplored land. *Terra australis nondum cognita* is with us still! Discussion of this paper also brought out a number of facts concerning exploration and appraisal lead time. The fact that exploration for and exploitation of minerals is a costly and time-consuming business appeared to come as something of a shock to the less scientific of Snow's two cultures, who had probably believed too many newspaper headlines. When it was further pointed out that most commercial companies are motivated by profit, and that profitable exploitation of anything is unlikely in the Antarctic at present, much of the heat went out of the debate. As a result, most of the rest of the discussion was conducted in a rather more calm atmosphere than might otherwise have been expected.

The second part of the morning was a review of the British and Australian perspectives on the minerals convention and comprehensive environmental protection. Dr John Heap of the Foreign and Commonwealth Office in London reviewed the political pros and cons of CRAMRA and the proposed absolute ban on mineral activity. He stressed the point that despite the image which has been presented of Australia and the UK being at loggerheads over this issue, the two positions are actually rather close with respect to the need to protect the Antarctic environment. In his view, the main danger lies in the possibility of appetites being whetted by accidental discoveries made in the course of scientific fieldwork. He saw CRAMRA as a pragmatic and timely response to this threat, but also gave some personal suggestions on how the gap between the British and Australian positions might be bridged.

Mr John Burgess of the Australian Department of Foreign Affairs and Trade stressed the depth of public concern for the Antarctic, and the role of public opinion in formulating policy. He suggested that despite the environmental provisions in CRAMRA, Antarctic mineral activity and environmental protection were irreconcilable. He thought that the Minerals Convention should be set aside while a comprehensive regime for Antarctic environmental protection is negotiated. The fact that both "sides" want what is best for the Antarctic came over very strongly; the main disagreement was on ways of achieving this end. The British view was pragmatic: "what will *work*?", and their position appeared to be a coherent part of a consistent Antarctic policy. In contrast, the Australian statement, despite Dr Heap's warning against any participant in the debate trying to claim the moral high ground, appeared to rest almost exclusively on the "moral" position. There were no answers formulated to the obvious practical questions: "who will be the rangers in the World Park?", "who will pay?". This is partly due to the short

time the Australians have had to formulate their policy, and partly to the narrow base they have had for negotiation, as to date only Australia and France of the Antarctic Treaty Parties formally oppose CRAMRA, although Belgium and Italy have expressed concerns. Despite the lack of practical proposals, the Australian viewpoint is clearly in tune with public opinion, and may prove closer to the mood of the moment.

The afternoon began with a talk by Ms Kelly Rigg, of Greenpeace International, who outlined the current threats to the Antarctic environment and saw the possibility of minerals exploitation as the greatest threat of all. She shared the Australian concern that mineral activity and environmental protection are mutually exclusive. Greenpeace believe that many of the countries which have signed CRAMRA are now changing their stance, and she expressed her hopes for the outcome of the Special Consultative Meeting to be held in Santiago later this year. Position papers have been tabled by Australia, France, Chile, New Zealand and the USA, and will form the basis of discussion at the Santiago meeting. She was optimistic about the prospects for establishing a World Park.

The talks finished with a review of the legal regime of Antarctica by Ms Catherine Redgwell of the University of Manchester. She saw the possibility of mineral exploitation as the greatest threat to the Antarctic environment, largely because the question of jurisdiction was side-stepped by the 1959 treaty. The Antarctic Treaty is a framework for regulating uses of the continent. As the level and diversity of that use have increased, so have the number of conventions which have had to be added to the Treaty system, without addressing the central questions of sovereignty and jurisdiction. Most of the non-lawyers in the audience appeared to take the view "If it aint' broke, don't fix it", but this would undoubtedly become a problem should any exploitable resource be found in the Antarctic before an effective regulatory mechanism were in place.

In the discussion period which rounded off the meeting, attention focussed on tourism, which many of the scientists present thought was a much greater and more immediate threat to the Antarctic than mineral activity. There was an inconclusive attempt to draw Mr Burgess on the subject of the status of Australia's territorial claim in a world park: a question which he sidestepped with as much aplomb as the treaty sidesteps the question of jurisdiction.

To sum up, this was a well-organized meeting. It succeeded in bringing together a disparate group of people, who would probably not otherwise have met, and each culture learned something from the other. T he largely British and Australian authorship was both a drawback and a strength: it limited the perspective, but it did allow the meeting to be kept to a single day. There were some people missing; in particular, it would have been useful to have had an honest statement of the extent of commercial interest in the Antarctic from a senior executive of an oil or minerals exploration company. Without such a clear public statement, the ghost of the conspiracy theory will continue to haunt the debate, however faintly.

DAVID I.M. MACDONALD

Fish Stock Assessment Working Group, CCAMLR, Hobart, 25 October–17 November 1989

The meeting examined the state of exploited Antarctic fish stocks and made recommendations to the Commission on conservation measures which should be adopted in the 1989/90 fishing season. The fishery in the Atlantic Ocean sector (FAO sub area 48.3) had produced 70160 tonnes, about 3000 tonnes less than the previous season but the proportions of species had changed substantially. The bulk of the catch (29673 tonnes) was the lantern fish *(Electrona carlsbergi)* with a reduced catch of only 21,356 tonnes of Antarctic ice fish (*Campcocephalus gunneri).* Yellow fin nothenia *(Patagonotothen guntheri)* was 13016 tonnes and a new longline catch of 4042 tonnes of the Patagonian toothfish(*Dissostichus eleginoides*) was made by the Soviet fleet around South Georgia. Catches around the South Orkney Islands (sub area 48.2) and in the Peninsula region (sub area 48.1) were less than 1000 tonnes per sub area and reported catches were restricted to *Champcocephalus gunnari* and *Notothenia gibberifrons*, although other species were known to be taken. In the Indian Ocean sector (area 58) the largest reported catches were taken around Kerguelen, with 23000 tonnes of C. *gunneri*, 1630 tonnes of *D. eleginoides* and 1825 tonnes of *N. squamifrons*. An additional 3660 tonnes of *N. squamifrons* were taken on Ob and Lana Banks (area 58.4.4). Catches close to the Antarctic continent comprised a few hundred tonnes of *Pleuragramma antarcticum* and *Chaenodraco wilsoni*. From the Pacific Ocean sector (area 88) only 1100 tonnes of *Electrona carlsbergi* were reported.

Assessment of stocks around South Georgia showed no recovery in *Notothenia rossi* and all conservation measures were recommended to be kept in force. There has been a further decline in the stock of *Notothenia gibberifrons* and catches were recommended to be kept to a minimum. There was no information on *Notothenia squamifrons* and limited information on *Dissostichus eleginoides* led to a recommendation of an annual catch of only 1200 tonnes. The Working Group recommended that no directed catches of *Pseudochaenichthys georgianus* and *Chaenocephalus aceratus* should be taken and by-catches must be reduced to a minimum. No recommendation was provided for *Patagonotothen guntheri*. There were no recommended catches for other Atlantic Ocean grounds.

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Assesment of the stocks around Kerguelen led to working group recommendations that the limit for *Dissostichus eleginoides* should be 1200 tonnes, the limit for *Champsocephalus gunnari* should be 6000 tonnes, *Notothenia squamifrons* should not be fished at all and maximum protection should be provided to *Notothenia rossii*.

The Working Group recommended that studies be undertaken on mesh selectivity, especially with respect to *Champsocephalus gunnari*. The series of specific conservaton measures were adopted for the area around South Georgia (sub area 48.3) limiting both total catches of *Champsocephalus gunnari* and the periods during which fishing could occur. A prohibition on directed fishing on*Notothenia gibberifrons, Champsocephalus aceratus, Notothenia squamifrons,* and *Pseudochaenichthys georgianus* was agreed. A system of observation and inspection to verify compliance with these measures came into force in the 1989/90 season.

Considerable difficulties were experienced by the Working Group in providing advice for *Champsocephalus gunnari*. Opposing views were presented in how stock assessment and management advice could be provided in the absence of detailed historical and current biological data. Most members agreed it was prudent to set conservative total allowable catches if data was limited. The opposing view held by the Soviet Union was that in the absence of more detailed data, management procedures should not be enacted. This contradiction appears likely to persist and will form a fundamental obstruction to adequate management of fish stocks.

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