# Representing Science in a Divided World: The Royal Society and Cold War Britain

A thesis submitted to the University of Manchester for the degree of Doctor of Philosophy in the Faculty of Life Sciences

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**Contents**

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**Abstract**

This thesis shows that despite the rhetoric of universalism and internationalism used by the Royal Society, especially after the onset of Cold War, its policies and actions in the period 1945-75 remained closely allied to the interests of the British state. More specifically, in its foreign relations the Society mainly operated within a network of Western intergovernmental organisations that were a response to, and operated in similar ways, to Eastern Bloc organisations. While financially dependent on a Parliamentary grant-in-aid, they effectively carved out a role in the sphere of international scientific relations which was built upon an image of independence from the state. Thus, Society Officers and staff were able to mobilise a double-sided discourse of utility to, and independence from, the state.

The association between the government of the day and the Society was at its most effective when a consensus existed between like-minded government administrators and Officers of the Society. A culture of collaboration and informal networks allowed them to build relationships and share ideas. The Society was perfectly designed to facilitate this culture, as its Fellows permeated government networks as individuals as much as they did as direct representatives of the Society. The status of Fellows conferred on them eligibility for a variety of positions, both formal and informal, within the elite infrastructure of national life. The thesis also shows that party politics and ideological motivations often prefaced associations between Fellows and like-minded politicians or civil servants, but these associations were principally between economic liberals to the exclusion of far left scientists.

However, the Society's connections with the government were also motivated by reasons beyond party politics. The Society had an overarching aim to preserve the United Kingdom's position as a scientific 'Mecca'. In the shifting post-war landscape, in which the country became more dependent on outside help and conscious of its relative decline in economic and political power, the Society looked beyond national borders to stay in the competition. The thesis shows that Officers of the Society responded creatively to the changing geopolitical landscape as old spheres of influence waned, such as the Empire-Commonwealth, and new ones opened up, such as the European Community and the special relationship with America. The Society pursued these new opportunities with patriotic ambition, often prioritising relations that promised scientific rather than political gains, but always within a Western framework.

**Declaration**

No portion of the work referred to in the thesis has been submitted in support of an application for another degree or qualification of this or any other university or other institute of learning.

**Copyright statement**

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**Acronyms and abbreviations (alphabetical)**

| | |
|---|---|
| ACSP | Advisory Council on Scientific Policy |
| AGM | Annual General Meeting |
| ARC | Agricultural Research Council |
| AScW | Association of Scientific Workers |
| ASLIB | Association of Special Libraries and Information Bureaux |
| BAAS | British Association for the Advancement of Science |
| BBC | British Broadcasting Corporation |
| BC | British Council |
| BCSC | British Commonwealth Science Committee (Royal Society) |
| BCenSO | British Central Scientific Office |
| BCommSO | British Commonwealth Scientific Office |
| BIOT | British Indian Ocean Territory |
| BMNH | British Museum of Natural History |
| CCF | Congress for Cultural Freedom |
| CERN | European Organisation for Nuclear Research |
| CIA | Central Intelligence Agency (USA) |
| CO | Colonial Office |
| Comecon | Council for Mutual Economic Assistance (Eastern Bloc) |
| Cominform | Communist Information Bureau |
| CPGB | Communist Party of Great Britain |
| CPSU | Communist Party of the Soviet Union |
| CSA | Chief Scientific Adviser |
| CSP | Council for Scientific Policy |
| IRF | Standing Committee on International Research Facilities |
| ISR | Standing Committee on International Scientific Relations |

| | |
|---|---|
| WPISR | Working Party on International Scientific Relations |
| DES | Department for Education and Science |
| DoD | Department of Defense (USA) |
| DSIR | Department for Scientific and Industrial Research |
| EEC | European Economic Community |
| FCO | Foreign and Commonwealth Office |
| FO | Foreign Office (subsumed into FCO in 1968) |
| FRS | Fellow of the Royal Society |
| fFRS | Foreign member of the Royal Society |
| ICSU | International Council of Scientific Unions |
| IGY | International Geophysical Year (1957-58) |
| IRD | Information Research Department (in Foreign Office) |
| ISRD | International Scientific Relations Division (of the DES) |
| IUCN | International Union for the Conservation of Nature |
| KGB | Russian Committee for State Security |
| MoD | Ministry of Defence |
| MRC | Medical Research Council |
| NAS | National Academy of Sciences (USA) |
| NASA | National Aeronautics and Space Administration |
| NATO | North Atlantic Treaty Organisation |
| NC | Nature Conservancy (subsumed into NERC in 1965) |
| NERC | Natural Environment Research Council |
| NHS | National Health Service |
| NSF | National Science Foundation (USA) |
| ODM | Ministry of Overseas Development |
| OECD | Organisation for Economic Co-operation and Development |

| | |
|---|---|
| OEEC | Organisation for European Economic Co-operation |
| OSRD | US Office of Scientific Research and Development (in London) |
| PM | Prime Minister |
| PRS | President of the Royal Society |
| RAF | Royal Air Force |
| RIS | Russian Intelligence Services |
| RS | Royal Society |
| RSEP | Royal Society European Programme |
| SAG | Royal Society Science Advisory Group to the Foreign and Commonwealth Office |
| SACWC | Scientific Advisory Committee to the War Cabinet |
| SIF | Society for Individual Freedom |
| SFS | Society for Freedom in Science |
| SRC | Science Research Council |
| SRD | Scientific Relations Department, FO/ FCO |
| STD | Science and Technology Department, FO/ FCO |
| SZRC | Southern Zone Research Committee (of the Royal Society) |
| UGC | University Grants Committee |
| UKSM | UK Scientific Mission in Washington |
| UN | United Nations |
| UNESCO | United Nations Educational, Scientific and Cultural Organisation |
| USA | United States of America |
| USSR | Union of Soviet Socialist Republics |
| VOA | Voice of America |
| WDCs | World Data Centers |
| WFSW | World Federation of Scientific Workers |

WPC World Peace Council

**Archival Codes**

AC Annals of Communism

GH George Hemmen's personal archive

GL University of Glasgow

TNA The National Archives, Kew

- AIR Records of the Air Ministry
- AVIA Records of the Ministry of Supply and successors
- CAB Records of the Cabinet Office
- CO Records of the Colonial Office
- CRO Records of the Commonwealth Relations Office
- FO Records of the Foreign Office
- FCO Records of the Foreign and Commonwealth Office
- FV Records of Department of Industry and predecessors
- HF Ministry of Technology
- KV Records of the Security Service
- PREM Records of the Prime Minister
- FT Records of the Nature Conservancy/ NERC

OX Oxford University: Bodleian Library

RS Royal Society

- AR Annual Reports
- C Papers of Council
- CM Council Minutes
- HD Papers of Henry Dale
- HF Papers of Howard Florey
- HWT Papers of Harold W. Thompson

| | | |
|---|---|---|
| | MDA | Modern Domestic Archives |
| | OM | Officers' Minutes |
| | PB | Papers of Patrick Blackett |
| | SZR | Papers of the Southern Zone Research Committee |
| SI | Smithsonian Institute, Washington DC | |
| UEA | University of East Anglia | |

**Officers of the Royal Society and select permanent staff**

**President**

| | |
|---|---|
| 1930 - 1935 | Sir Frederick Gowland Hopkins |
| 30 Nov 1935 - 30 Nov 1940 | Sir William Henry Bragg |
| 30 Nov 1940 - 30 Nov 1945 | Sir Henry Hallett Dale |
| 30 Nov 1945 - 30 Nov 1950 | Sir Robert Robinson |
| 30 Nov 1950 - 30 Nov 1955 | Edgar Douglas Adrian (life peer 1955) |
| 30 Nov 1955 - 30 Nov 1960 | Sir Cyril Norman Hinshelwood |
| 30 Nov 1960 - 30 Nov 1965 | Sir Howard Walter Florey (life peer 1965) |
| 30 Nov 1965 - 30 Nov 1970 | Patrick Maynard Stuart Blackett (life peer 1969) |
| 30 Nov 1970 - 1 Dec 1975 | Alan Lloyd Hodgkin (knighted 1972) |
| 1975 - 1980 | Lord Alexander Robertus Todd of Trumpington |
| 1980 - 1985 | Sir Andrew Huxley |

**Treasurer**

| | |
|---|---|
| 1929 - 1939 | Sir Henry George Lyons |
| 30 Nov 1939 | Thomas Ralph Merton (knighted 1944) |
| 30 Nov 1956 | Sir William George Penney (life peer 1967) |
| 1 Nov 1960 | Alexander Fleck (life peer 1961) |
| 30 Nov 1968 - 8 Feb 1972 | Sir Frederick Charles Bawden |
| 18 May 1972 - 30 Nov 1976 | James Woodham Menter (knighted 1973) |
| 30 Nov 1976 - 1 Dec 1986 | Basil John Mason (knighted 1979) |

**Biological Secretary**

| | |
|---|---|
| 1925 - 1935 | Henry Hallett Dale (knighted 1932) |
| 1935 - 1945 | Archibald Vivian Hill |
| 1945 - 1955 | Edward James Salisbury (knighted 1946) |
| 30 Nov 1955 | Sir George Lindor Brown |
| 30 Nov 1963 | Sir Arnold Ashley Miles |

| | |
|---|---|
| 30 Nov 1968 | Bernard Katz (knighted 1970) |
| 30 Nov 1976 - 30 Apr 1983 | David Chilton Phillips (knighted 1979, life peer 1994) |

**Physical Secretary**

| | |
|---|---|
| 1929 | Frank Edward Smith (knighted 1931) |
| 1938-1948 | Alfred Charles Glyn Egerton (knighted 1943) |
| 30 Nov 1948 - 30 Nov 1957 | David Brunt (knighted 1949) |
| 30 Nov 1957 - 30 Nov 1963 | William Valance Douglas Hodge (knighted 1959) |
| 30 Nov 1965 - 30 Nov 1968 | Sir Michael James Lighthill |
| 1 Dec 1969 - 30 Nov 1978 | Sir Harrie Stewart Wilson Massey |
| 30 Nov 1978 - 3 Jan 1984 | Sir Theodore Morris Sugden |

**Foreign Secretary**

| | |
|---|---|
| 1928 | Sir Henry George Lyons |
| 1929 | Robert John Strutt, 4th Baron Rayleigh |
| 1934 | Albert Charles Seward (knighted 1936) |
| 1940 - 1945 | Sir Henry Thomas Tizard |
| 1945 - 1946 | Archibald Vivian Hill |
| 1946 - 1950 | Edgar Douglas Adrian (life peer 1955) |
| 30 Nov 1950 | Sir Cyril Norman Hinshelwood |
| 30 Nov 1955 | Henry Gerard Thornton (knighted 1960) |
| 30 Nov 1960 | Sir Reginald Patrick Linstead |
| 30 Nov 1965 | Harold Warris Thompson (knighted 1968) |
| 30 Nov 1971 | Sir Kingsley Charles Dunham |
| 30 Nov 1976 – 30 Nov 1981 | Michael George Parke Stoker (knighted 1980) |

**Permanent Staff**

**Assistant Secretary** (retitled Executive Secretary in 1962)

| | |
|---|---|
| 1937 - 1947 | John David Griffith Davies |

| | |
|---|---|
| 1947 - 1976 | David Christie Martin (knighted 1970) |
| Jan 1977 - 20 May 1985 | Ronald William John Keay |

**Deputy-Executive Secretary**

| | |
|---|---|
| May 1962 - 1976 | Ronald William John Keay |

# Introduction



This thesis explores the Cold War history of Britain's oldest and most senior science academy. Its history in the Cold War, indeed for the entire twentieth century, has been largely neglected, yet is arguably of great importance. During this period, the Royal Society prided itself on being an independent, self-regulating body, that did not involve itself in political issues. This was a position it increasingly sought to emphasise during the period in question, as a reaction to the proliferation of national science organisations that were more closely under government control. The Cold War is a particularly intriguing area of study because it turned the spotlight on competing national ideologies and therefore tested the impartiality of the Society. After all, the Society represented a

politically diverse, and often vocal, fellowship, that had competing ideas of what role science, and the Society, should play in Cold War Britain.

The thesis will explore episodes and trends in the Society's Cold War history that tap into two simmering tensions in the post-war dynamic of the Society: firstly, the tension between its independence from, and closeness to, British politics and the government; secondly, the tension in the fellowship between politically active Fellows of pro-East and pro-West persuasions. In both cases, I will juxtapose the Society as an institution with the actions of its Fellows and staff as individuals.

### 0.1 What is the Royal Society? Why is it interesting?

In the period covered in this thesis, the Royal Society (hereafter the Society) can be thought of as a series of concentric circles: the outer circle is home to the fellowship at large, some of whom take a very active interest in the development of the Society, whilst others are far less prominent in its affairs.[1] The middle circle consists of the Council, a body of twenty-one Fellows (FRSs), elected annually by the fellowship, with a turnover of ten new members each year. Council members attend meetings to make decisions about the direction and activities of the Society, and serve on various committees who report back to Council. They have the power to make, appeal or amend the Standing Orders of the Society, which regulate their affairs. The inner circle comprises five Officers elected by the Council to execute the Society's policy and the actions decided upon by Council: the President (PRS), Foreign Secretary, Treasurer, Biological Secretary and Physical Secretary.[2] Alongside the fellowship, the Society has a body of

[1] In 1848 the number of Fellows elected each year was 15. This increased to 17 in 1931, 20 in 1937, 25 in 1946, 32 in 1964, and 40 in 1975. Feldberg W. S. (1970): "Henry Hallett Dale, 1875-1968", *Biographical Memoirs of Fellows of the Royal Society* **16**, 147; Dale H. H. (1946a): "Address of the President Sir Henry Dale, O.M., G.B.E., at the Anniversary Meeting, 30 November 1945", *Proceedings of the Royal Society of London B* **133**, 129; Abraham E. P. (1971): "Howard Walter Florey. Baron Florey of Adelaide and Marston. 1898-1968", *Biographical Memoirs of Fellows of the Royal Society* **17**, 283; Home R. W. (2003): "The Royal Society and the Empire: The Colonial and Commonwealth Fellowship Part 2. After 1847", *Notes and Records of the Royal Society of London* **57** (1), 62-63.

[2] Lyons H. (1968. first published 1944): *The Royal Society 1660-1940: A History of its Administration under its Charters* (New York: Greenwood Press), 51; http://royalsociety.org/about-us/governance/council/ accessed 20/03/2013; Lyons (1968), 46.

permanent staff, conceptually similar to the civil service. In theory the staff serves the elected Officers and Council in carrying out tasks and effecting policy; in practice the staff can be extremely influential and directive with their own agendas. The Assistant Secretary (renamed Executive Secretary in 1962) also serves as the Head of Staff.[3]

Potential candidates for the fellowship must be nominated by at least two existing Fellows and elected by a two-thirds majority in a subsequent secret ballot of Fellows.[4] Eligibility for the fellowship during the post-war period was restricted to those who had made an outstanding contribution to science.[5] This brought an interesting dynamic to the Society, because it meant that Fellows formed a network of influential people across the British scientific community.[6] They wore a number of different 'hats' in British life, as vice-chancellors of universities, heads of university departments and colleges, national laboratories and research organisations, as advisors to government departments and parliamentarians, and as British representatives in international scientific organisations. Therefore, the fellowship was worth more than the sum of its parts; it was almost like an informal executive committee of British science.[7]

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The election process is however, heavily socially negotiated beforehand. See Collins P. (2011): "Presidential politics: the controversial election of 1945", *Notes and Records of the Royal Society of London* **65**, 325–342.

[3] In this period this role was filled by David Martin from 1947 to his death in 1976, at which point he was succeeded by his Deputy, Ronald Keay. See: Massey H., Thompson H. (1978): "David Christie Martin. 7 October 1914-16 December 1976", *Biographical Memoirs of Fellows of the Royal Society* **24**, 390-407.

[4] http://royalsociety.org/about-us/fellowship/election/ accessed 20/03/2013

[5] Non-scientists could also be elected under Statute 12 (until 1996), if their membership would be of 'signal benefit' to the Society. Royals could also be elected as Royal Fellows. The Statute 12 process has now been replaced with 'Honorary Fellow'. http://royalsociety.org/about-us/fellowship/former-statute-12/ accessed 20/03/2013; http://royalsociety.org/about-us/fellowship/royal-fellows/ accessed 20/03/2013.
For many years, the fellowship was not limited to men of science. In Henry Lyons' analysis, it was not until around 1861, with the purge of non-scientific men from the fellowship, that the Society became, or returned to being, a purely scientific organisation. Lyons (1968), especially p52.

[6] See Collins P. (2010): "A role in running UK science?" *Notes and Records of the Royal Society of London* **64**, 126.

[7] Philip Gummett acknowledges the prevalence of a relatively small elite of scientists across the major advisory roles in Britain. He also notes a strong association between membership of the Royal Society and holders of these positions. He references Blume's study of the membership of the ACSP and CSP which found that these advisors were a 'remarkably cohesive elite, constantly renewed in their own image'. Gummett P. (1980) *Scientists in Whitehall* (GB: Manchester University Press), 93-97; Blume S.S. (1974): *Toward a Political Sociology of Science* (New York and London: The Free Press, and Collier Macmillan), 199-201.

For its first two hundred years, the Society was predominantly funded by private donors and Fellows' subscriptions; the Parliamentary Grant-in-aid it relies upon today only started in 1850.[8] Despite being part-funded by the government, the Society has at times been very vocal in declaring independence from it.[9] The post-war period was one such time, but only after a period of intense negotiation amongst the fellowship during and after World War II (WWII).

The Society's management of its position between government patronage and independence is a major theme of this thesis. In the post-war period, the Society needed to secure continued government funds in an increasingly competitive arena of state-sponsored science organisations. Yet its identity as an independent organisation, rather than an agency of government such as the Research Councils, was, at least in foreign relations, seen by the government as advantageous in certain areas and with certain countries. The Society represented British science in many international science organisations and on a one-to-one basis with foreign national science academies. During the Cold War period the Society's non-governmental image allowed them to make contacts and cross national borders in a way that an agency of government could not.

The structure of the Society made it the ideal candidate for this paradoxical role. As an institution it could uphold the independent ideal, yet as individuals wearing many 'hats', its Fellows had, not only an express line into government advisory committees and departments, but also into the executive boards of other national science institutions. In this way, the Society could maintain the appearance of distance from national affairs, but in practice enjoy close relations. This

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[8] MacLeod R. M. (1971): "The Royal Society and the Government Grant: Notes on the Administration of Scientific Research, 1849-1914", *The Historical Journal* **14** (2), 323-358.
In 1919 the Treasury increased the grant to £5,000, in 1936 to £7,000, in 1946 to £21,000, in 1955 to £30,000 and in 1967 to £169,000. The Yearbook of the Royal Society of London (London, 1968), 125, in MacLeod (1971), 355. Henry Lyons states that the government grant was increased to £5,000 in 1876, which contradicts MacLeod. Lyons (1968), 288.
The majority of benefactions came from Fellows. A small proportion came from members of the public in order to assist the Society in its work. Some contributions were bequests and gifts, some were in the form of trusts, and others were for specific projects that the Society was engaged in at the time. Henry Lyons claims that it was evident from the early days of the Society that they were unlikely to receive any financial assistance from the Crown or the state. Therefore, it was necessary to recruit a proportion of non-scientific Fellows from upper class society. In the early days only one third of Fellows were scientific men of eminence. Lyons (1968), 44, 52, 280-281.

[9] This is not necessarily to say that Fellows agreed that it was and/or should be the case. The current propensity to promote its independence may itself be a product of recent negotiation.

paradoxical status of the Society made it the ideal host for certain government schemes. One of these was the Royal Society European Programme, which was tied into the Wilson Government's desire to join the Common Market, as discussed in chapter 3. The Society's position as an independent organisation allowed it to advance this agenda under the aegis of science. The Society often had its own agendas to pursue, however, and chapter 4 explores the limitations to their special relationship with the government.

This special relationship is the first of two main themes in the thesis. The second focuses on the internal body politic of the Society, that was, of course, intertwined with the first theme. The Society had to keep favour with governments of different political persuasion, and also with different ministries and their civil servants, and one thing this thesis shows is that 'the government' was never unitary. During the Cold War, the relationship between the Society and the government was underpinned by a broad consensus on Britain's place in the world. Radical left-wing scientists, which historians have tended to focus on, were outsiders, especially in the early Cold War years and not just in the Royal Society. They were excluded from government advisory circles, the civil service, and research organisations, especially those involved in national defence projects.

The thesis explores how politicised factions within the Society related to wider political trends in Britain and worldwide, and how the inner circle of Officers dealt with dissent in the fellowship. At times it considers the minutiae of the Society's interactions with specific Governments, whilst at others it explores its relation to overarching post-war trends. In doing so, it gives a flavour of both (i) significant individuals and their acute impact on the Society, and (ii) the Society as an institutional brand and how its post-war history interacted with its long history.

## 0.2 20th Century histories of the Society

The majority of scholarship on the Society finds intrigue with its foundation in the 17th Century. Thomas Sprat's history written in 1667 perhaps epitomises the perceived importance of its early history. Some limited scholarship exists on the

18th and 19th Centuries but very little has been written about the Society in the 20th Century, and even less so the post-war period.[10] The few exceptions include an 'insiders' institutional history written by Henry Lyons FRS and John Rowlinson FRS, covering the periods 1660-1940 and 1940-1989 respectively, and Dorothy Stimson's *Scientists and Amateurs* (spanning 1660-1948).

Lyons was a Fellow and acted as Treasurer for the ten years previous to WWII. He states that his aim was not to record the history of science or of Fellows' greatest achievements but to charter the Society's administrative affairs in its rise to prominence.[11] Indeed, his meta-narrative serves to structure the story so that it progresses neatly through the 'scientific revolt' of the 19th Century to his own contributions and those of his peers in the early 20th Century, as, in his estimation, the Society continued to gain power and influence. It is a very similar style of collective biography to much Society history, focusing on the activities of Presidents and key Officers.[12] There is also an obvious focus on chronology rather than themes, which thus resembles a progressive rather than context-based history. Lyons's account celebrates the historical roots of the Society, both in content and in overall structure, as he shows how the Society overcame obstacles to vindicate its founders in the rise to scientific prominence. In chapter 1 I discuss this interpretation further, showing how Lyons used his narrative to influence the course of the debate over what role the Society should play in the post-war period. Furthermore, in section 0.4, I discuss how recent scholarship on the Society's post-war history has contradicted Lyons's view of the Society as being on a trajectory towards increasing power and influence in the 1940s.

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[10] During the lifetime of this thesis, several papers on the Society's post-war history have been published. These are discussed later in the chapter. For scholarship on the Society in the 18th and 19th Centuries, see for example, Crosland M. (2005): "Relationships between the Royal Society and the Acadmie des Sciences in the Late Eighteenth Century", *Notes and Records of the Royal Society of London* **59** (1), 25-34; Miller D. P. (1981): "The Royal Society of London 1800-1835: A study in the cultural politics of scientific organisation", Unpublished PhD Thesis, University of Pennsylvania; Miller D. P. (1983): "Between Hostile Camps: Sir Humphrey Davy's Presidency of the Royal Society of London, 1820-1827", *British Journal for the History of Science* **16** (1), 1-47; Richardson G. (2002): "A Norfolk Network within the Royal Society", *Notes and Records of the Royal Society of London* **56** (1), 27-39; MacLeod (1971).

[11] Lyons H. (1968 (first published 1944)): *The Royal Society 1660-1940: A History of its Administration under its Charters* (New York: Greenwood Press), viii.

[12] For example, see Lyons (1968), 231, 246-7.

Stimson's *Scientists and Amateurs* takes as its main sources the published histories written by Fellows (including Lyons), alongside institutional records and articles published in the Society's historical journal, *Notes and Records*. Perhaps the sources account for Stimson's similarly grand and celebratory account of the Society, which seemingly befits a FRS but not necessarily a historian. The meta-narrative of Lyons's history is subtly echoed, with the same essence of celebrated progress towards the present in which the institution overcame handicaps and emerged successful.[13]

Stimson's apparent loyalty to the Society is nowhere more explicit than in her sustained argument regarding the Society's identity. Indeed, she seems to promote an agenda of a) their independence from the government and political matters in general, and b) their commitment to freedom and internationalism in science. She frames the introduction of the Parliamentary Grant-in-aid in 1850 as an "unexpected" recognition of the Society's successes in the previous decades: evidence of their privileged position, power, and international leadership as opposed to their dependence on the state. Stimson's argument is somewhat hypocritical in its effort to push this thesis, as she comments in reference to the early 20th Century, that "similar societies and academies on the continent were of course governmentally supported and were not private organisations as is the Royal Society".[14]

Stimson attempts to draw lines between 'independent uses' and 'political uses' of science, falling just short of equating 'political use' with a 'corrupt use' that threatened to disturb international scientific relations and compromise the Society's independence from government.[15] Thinking about this account as a product of the early post-war period, perhaps it represents an attempt to assert the Society's independence at a time when it was potentially under threat from state imperatives, and was experiencing troubled relations with international scientific bodies. It was this tentative era of post-war reconstruction that witnessed the climax of the Lysenko affair in 1948, which compromised freedom in science in

[13] Stimson D. (1949): *Scientists and Amateurs: A History of the Royal Society* (London: Sigma Books Limited), 6, 249-50.
[14] Ibid. 223, 228, 231, 243, 246-8.
[15] Ibid. 229, 232-235.

the USSR and served to break relations between its Academy and the Society. Whether these events informed Stimson's agenda is unknown, but she certainly pushes the assertion of the Society's independence, as evidenced in the following passage:

> The Society's position outside party politics would seem to be one of its sources of strength in its dealings with governmental agencies. For always, be it noted, the Society continues as an independent, private organisation with its housing alone provided by the state in recognition of its public usefulness.[16]

Rowlinson picks up the Society's history where Lyons left it in 1940. The style is quite similar in as much that it also takes the form of part-biography of the Society's Presidents and key Officers. This is perhaps representative of the widespread influence of the President on the activities of the Society. Indeed, Peter Collins has argued that, generally speaking, as the President is held in such esteem, it tends to be a case of 'what the President wants the President gets'.[17] Whilst I explore the influence of the Presidents and Officers in the thesis, I also discuss the influence of the permanent staff on the direction of the Society.

In other ways Rowlinson's history strays from Lyons's example. Rowlinson is particularly concerned with science policy and the relationship between the Society and the British government. Indeed, he focuses on events of political interest such as the Lysenko affair, nuclear weapons and dissident scientists in the USSR.[18] Whilst Rowlinson's history engages with the wider context, it is brief and does not delve into any analysis beyond these empirical details. The next section outlines an alternative, and more critical, historiographical method for studying the Royal Society.

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[16] Ibid. 246.
[17] Personal Communication: Dr. Peter Collins, Director, Royal Society Centre for the History of Science, 05/2009.
[18] Rowlinson J.S. (1992): "The Development of the Society, 1940-1989," in Rowlinson J.S., Robinson, N.H. *The Record of the Royal Society of London: supplement to the fourth edition for the years 1940-1989* (Great Britain: Royal Society), 8, 26, 31, 34-35.

## 0.3 Historiography

Much of the existing history on the Society, whether it be official histories or articles published in *Notes and Records*, is written by Fellows themselves or by historians who have used this same material uncritically (of which Stimson is a good example). I present this as a historiographical problem because it represents an 'insiders' history, and is therefore engaged in a certain amount of self-presentation or self-censorship on behalf of the institution and/or the individual. Much existing Royal Society history is also classically Whiggish; it often views the past through present-centred eyes. Consequently, the Society is largely presented as being divorced from its social and political context, and the style is often heroic because it ignores the 'losers'. Indeed, Royal Society histories are perhaps inescapably 'winners' accounts that sit neatly with 'great men' histories.[19]

My research aims to present a 'stranger's' account of the Royal Society; one that will approach the Society's archival sources with a critical eye and juxtapose them with material from other archives. This account will seek to place the institution within specific cultural and political contexts and explore how local and national events shaped and were shaped by individual Fellows and the actions of the institution. Thus it will challenge the image of the Society as being apolitical and independent.[20]

Local, national and international contexts

Elisabeth Crawford in *Nationalism and Internationalism in Science* argues that the two themes of nationalism and internationalism cannot be studied in isolation because "no scientific institution, no matter how national or even nationalistic in design and purpose, can function in isolation from international trends [...]".[21] It is important therefore to juxtapose the two, i.e. attempt to study both

[19] On this area of historiography, see Kuhn T.S. (1970): *The Structure of Scientific Revolutions* (GB: University of Chicago Press), 2-3; Shapin S. (1996): *The Scientific Revolution* (USA: University of Chicago Press), 6-8, 12; Daston L., Park K. (eds.) (2006): *The Cambridge History of Science Vol. 3: Early Modern Science* (GB: Cambridge University Press), 12-13.
[20] The methodology of the 'stranger's account' is outlined and utilised in: Shapin S., Schaffer S. (1985): *Leviathan and the Air-pump: Hobbes, Boyle, and the experimental life* (USA: Princeton University Press).
[21] Crawford E. (1992): *Nationalism and Internationalism in Science, 1880-1939* (USA: Cambridge University Press), 5-7.

simultaneously. Crawford claims that the Nobel population are useful to study because they generally represent the national scientific elite and as such are usually active on the international scene as well.[22] Crawford also reflects on the pitfalls of the historical technique of prosopography in this context. She argues that biographical methods are best used in conjunction with analysis of institutional, political and cultural contexts, but also historical periodisations that mark the fluctuations of internationalism in science.[23] I complement this model in my research by counterbalancing biographical material with contextual information on a national and international scale.

However, it is also important to take local context into account. In her 2002 study of post-war molecular biology at the University of Cambridge, Soraya de Chadarevian calls for more such contextualised local studies in the history of science, rather than 'big picture' accounts, because "scientific institutions embody local expertise and negotiations". The accompanying method to this historiographical move prescribes a combined analysis of localised science practices with institutional and political strategies that are employed in the promotion of the science.[24] In terms of the Royal Society, although it is not a site of knowledge production in the same way as a laboratory is, its actions and negotiations shape scientific practices and events through localised channels and sociological structures.

Cambridge molecular biologists in the 1960s skilfully utilised political channels to put their science on the government agenda.[25] This story challenges the top-down view of government interest in science, and as such, de Chadarevian argues that to understand an institution one requires an appreciation of the *two-way* flow between it and the world.[26] De Chadarevian's study provides a useful methodological template for thinking about a scientific site as a permeable unit in a wider society. I embrace this idea in my research by exploring the dynamic

[22] Ibid. 2-3.
[23] Ibid. 26.
[24] De Chadarevian S. (2002): *Designs for Life: Molecular Biology after World War II* (U.K.: Cambridge University Press), 3, 11, 366.
[25] Ibid. 7-8.
[26] Ibid. 364.

(rather than one-way) relationship between the British government and the Society.[27]

Jon Agar's 1998 study of Jodrell Bank (JB) in the post-war period negotiates the different meanings of the JB telescope when attached to different patrons, contexts and directors. He draws comparisons with the parallel project at Cambridge, emphasising how differences arose from the individual personalities of Lovell and Ryle.[28] The heterogeneous funding structure for science in this period allowed for the attachment of different meanings to mobilise support for the telescope. For instance, Agar discusses how the defence potential of the JB telescope was mobilised by scientists in the wake of Sputnik in the hope of raising funds to clear their debt.[29] As such he emphasizes the importance of both local and national influences on scientific activity and rhetoric. A criticism of Agar is that he does not explore how these issues struck a political chord in relation to capitalist and communist ideologies. Indeed Agar's analysis is lacking in reference to cultural or party politics. In this thesis I hope to draw not only a dynamic picture of the local and national influences and individual personalities, but also the cultural politics within and surrounding the institution.

Science and ideology

Traditional historians of science would hold political ideology as antithetical to the development of science on the assumption that the otherwise linear and socially insulated path of science is corrupted by the influence of ideology. In this characterisation, socially insulated science is portrayed as 'good science' and science which is influenced by social or political bias is portrayed as 'bad science'.[30] Revisionist historians of science have exposed this assumption as being fundamentally flawed, rejecting the distinction between 'good' and 'bad'

[27] For another account that challenges the top-down view of government interest in science, see Hamblin, J.D. (2006): "Hallowed Lords of the Sea: Scientific Authority and Radioactive Waste in the United States, Britain, and France", *Osiris* **21**, 209-28.
[28] Agar J. (1998): *Science and Spectacle: The Work of Jodrell Bank in Post-war British Culture* (GB: Harwood Academic Publishers), 30.
[29] Ibid. 75-76.
[30] For discussion of these historiographical issues, see Josephson P. R. (1996): *Control of Nature: Totalitarian Science and Technology* (New Jersey: Humanities Press), 1-6; Kaiser D. (2002): "Cold war requisitions, scientific manpower, and the production of American physicists after World War II", *Historical Studies in the Physical and Biological Sciences* **33**, 153, 156.

science because all science should be thought of as being influenced or constructed by social forces.[31] Indeed, science itself can be thought of as an ideology, one that must mobilise cultural authority, generate support, propagandise, and popularise.

As such, science holds a conditional relationship with political ideology. Greta Jones's work provides a very useful model for thinking about science and politics in this way. In *Science, Politics and the Cold War* she highlights the close relationship between politics and science and the conditional relationship between the scientific polity and the wider polity. Science, she argues, is not a series of established facts but simply "peripheral to political history".[32] Shapin and Schaffer make a similar argument, that "solutions to the problem of knowledge are solutions to the problem of social order". Therefore, a particular epistemology is simultaneously a solution *and* a problem to social order, depending on one's social and political ideals.[33] This idea of a conditional relationship between the scientific polity and the wider polity provides a useful historiographical basis for thinking about the Royal Society. Jones argues that the approach is especially pertinent for the Cold War period, because "science was central to several crucial political battles of the post-war world".[34] In this thesis I will show that the fellowship represented the Cold War British polity in microcosm, and juxtapose this with the 'apolitical' position of the Society as an institution.

## 0.4 Post-war roles for the Society

From the early 20th Century, with the introduction of the Department of Scientific and Industrial Research (DSIR) in 1915, the University Grants Committee (UGC) in 1918 and the Research Councils, the Society's role in running national science

[31] On this area of historiography, see Cunningham A. (1988): "Getting the game right: Some plain words on the identity and invention of science", *Studies in the History and Philosophy of Science* **19**, 365-389; Barnes B. (1974): *Scientific Knowledge and Sociological Theory* (London: Routledge & Kegan Paul); Kevles D. J. (1990): "Cold war and hot physics: Science, security and the American state, 1945-56", *Historical Studies in the Physical and Biological Sciences* **20**, 262-264.
[32] Jones G. (1988): *Science, Politics and the Cold War* (New York: Routledge), i.
[33] Schaffer S., Shapin S. (1985): *Leviathan and the Air-pump: Hobbes, Boyle, and the experimental life* (USA: Princeton University Press), 332.
[34] Jones (1988), i.

was increasingly marginalised.[35] A recurring theme in the thesis is that of the Society trying to secure continued funding and a more executive role in science policy-making. Peter Collins's recent article, "A role in running UK science?" makes a provocative argument about the Society's post-war position. He argues that successive post-war Councils, having failed to secure a more executive position in policy-making, coveted and promoted their position of independence from government, not as a default position as one might expect, but because it was a niche that they could fill amidst an increasingly complex network of quasi-governmental scientific bodies.[36]

The machinery of government

Andrew Hull, in his discussion of the relationship between the Society and the British government during World War I (WWI), argues that previously the Royal Society was the "natural conduit" through which scientific advice would flow towards government. However, its relations with the state, and specific government departments, were mostly unofficial, discreet, and did not compromise the Society's public profile as an agency of and for pure science.[37] Rather, the Society provided an "informal shadow advisory-research structure" for government departments, outside the government machine.[38]

However, WWI created an impetus for change in this relationship. The Society's response to the onset of war was to reconstitute its Council as an executive Royal Society War Committee (RSWC), a move that was influenced by certain key government departments.[39] Hull's analysis, which focuses on one branch of the RSWC, the RS Food (War) Committee (FWC), demonstrates how the Society expressed their dissatisfaction with the one-way flow of information from the

[35] See Collins (2010); MacLeod (1971), 356.
Introduction of and change in the research councils until 1975: Medical Research Council (MRC) 1920; Agricultural Research Council (ARC) 1931; Nature Conservancy (NC) 1949, subsumed into Natural Environment Research Council (NERC) 1965; Social Sciences Research Council (SSRC) 1965; DSIR disbanded and functions dispersed into Natural Resources Research Council (NRRC), Industrial Research and Development Authority (IRDA) and Science Research Council (SRC) 1965.
[36] Collins (2010).
[37] Hull A.J. (2002): "Food for Thought?: The Relations between the Royal Society Food Committees and Government, 1915-19", *Annals of Science* **59** (3), 267.
[38] Ibid. 271.
[39] Ibid. 267. Hull does not specify which departments.

Society to the government, when they sought an executive role in policy-making, the authority to direct rather than merely be consulted.[40]

The heart of this issue was one of remit and knowledge. The Society perceived the need for scientists - physiologists, nutritionists - to be drawing up a national food policy, because they felt that generalist policy-makers in government could not possibly have the technical knowledge to make dietary decisions effectively. In turn, Hull argues, the generalist policy-maker perceived the situation in terms of layers; the government should make the key decisions, *especially*, if not always, in wartime, whilst the scientists, a potential security risk, should wait politely on the periphery and provide the relevant specialist knowledge.[41] This idea of insider and outsider permeated much of the discourse between the Society and the government, and is a theme that persisted throughout their relationship in the 20th Century.

The FWC mobilised informal networks with individuals in government to influence policy in the absence of the more formal relations they sought. However, these strategies met with little success and, Hull argues, were partly responsible for the implementation of measures after the war which would "curb rigidly the very possibility of influence over general policy-making for outside scientific experts".[42] These measures stemmed from R.B. Haldane's *Machinery of Government Report.* Hull argues that, on the surface, the Report was presented as a progressive preserver of scientific autonomy, whilst its real purpose was to definitively separate government-sponsored science from the policy-making process, where the relationship between scientists and policy-making had previously been ambiguous. Henceforth, the idea was reinforced that "the state, not scientists, would dictate modes of interaction between the two". Scientific experts were secured at a distance from the government and were on tap for policy advice.[43]

[40] Ibid. 267-268.
[41] Ibid. 293.
[42] Ibid. 271.
[43] Ibid. 297.

Science and the state

During the interwar period, many Fellows became interested in the social relations of science. The 'freedom and planning debate' was the arena in which issues around the nature of scientific inquiry and its relation to national agendas were debated. Some members of the scientific community argued persuasively for the state to play a more directive role in planning and rationalising the scientific pursuit, whilst others, including some Officers of the Society, sided with what was claimed to be 'tradition', arguing that the freedom to choose one's research topic and develop it at will was a prerequisite for scientific discovery.[44] The position of the Royal Society in this debate has not previously been explored and, in the chapters that follow, I show that it was important at all levels and for much of the immediate post-war era. The Society was given a symbolic position at the heart of the debate, as Fellows manipulated its history to support their political agendas. During the interwar and WWII period, this debate provided an arena for Fellows' competing visions of what role the Society should play in peacetime. In the early post-war period this conflict was sent into dormancy by the global political situation, as events such as the Lysenko Affair were widely mobilised to demonstrate to a domestic audience the dangers of a close association between science and government. Again, the Society held a symbolic position at the heart of this process.

WWII was a catalyst for unprecedented changes in the relationship between the state, science, and scientists. As the war intensified a growing consensus formed, with the eventual support of the Royal Society, that science should be exploited to the full in Britain's war effort. During the early 1940s the Society successfully lobbied the Government to create the Scientific Advisory Committee to the War Cabinet (SACWC).[45] The wartime President of the Royal Society (PRS), Sir Henry Dale, also pressed the Government from 1943 to reform its co-ordinating

[44] On the social relations of science movement, and the freedom and planning debate, see McGucken W. (1984): *Scientists, Society, and State: The Social Relations of Science Movement in Great Britain 1931-1947* (Columbus: Ohio State University Press); McGucken W. (1978): "On Freedom and Planning in Science: The Society for Freedom in Science, 1940-46", *Minerva* **16** (1), 42-72; Ritschel D. (1997): *The Politics of Planning: The Debate on Economic Planning in Britain in the 1930s* (GB: Oxford University Press).

[45] McGucken (1984), 6-7, 156, 206-7; Rose H., Rose S. (1969): *Science and Society* (GB: Allen Lane The Penguin Press), 69-70.

machinery for science. He succeeded in the final days of his presidency in persuading key officials and the new Lord President of the Council, Herbert Morrison, to do so. The resulting review was the 1946 Barlow Committee on Future Scientific Policy. During the consultation process, Sir Alfred Egerton, Physical Secretary of the Society, pressed for a conservative approach that would not encroach on the existing responsibilities of the Society. The outcome of the Barlow Committee was the establishment in 1947 of the Advisory Council on Scientific Policy (ACSP) as a successor to the SACWC; those who had advocated a more radical restructuring, notably Patrick Blackett and Solly Zuckerman, were left wanting.[46]

Meanwhile, the role that the Society would play in post-war science was unclear in 1945. Collins highlights how, having enjoyed in 1850, a hundred per cent share of what we would now call the (civil) Science Budget, the Society in 1939 had a meagre one per cent. This was a fraction of the grant awarded to the DSIR, which had assumed some of the Society's historic roles, such as responsibility for the National Physical Laboratory.[47] Moreover, an increasingly complex network of scientific bodies had assumed responsibility for most executive scientific roles, thus supplanting the influence of the Society. The DSIR, Agricultural and Medical Research Councils were consulted officially by the government for scientific advice, the UGC managed funding for universities, and the government Chief Scientific Advisor was drawn from the DSIR or the ACSP.[48]

Immediately following WWII, a group of Fellows signed a petition which they hoped would influence the outcome of the Society's imminent Presidential election. They argued that science had become a central part of national life and, if the Society was to occupy an important part of that national life, it would need a politically savvy leader. Collins claims that the petitioners were not rewarded with the leader of their choice, rather the next two Presidents, Robert Robinson and Edgar Adrian, maintained the *status quo*, namely, a commitment to fundamental

[46] Gummett (1980), 217-221.
[47] Collins (2010), 120-122 ; Gummett (1980), 24. The DSIR assumed responsibility for it in 1918.
[48] Ibid. 120-122.

research, scientific autonomy, and independence.[49] The period 1946 to 1964, which I characterise as the 'long 1950s', has been seen by historians of the Society as the lost decade, in which it continued to be withdrawn from national affairs and policy. I challenge this view and, in chapter 2, show that the Society had close relations with government at certain levels, though many were informal and relied on personal relations.

Whilst Adrian's successor, Cyril Hinshelwood, was more concerned than his predecessors over the diminished influence of the Society, it was from 1960, when Howard Florey became President that things changed and, having been a signatory of the post-war petition, he was at last in a position to enact the earlier ideals, albeit in a different social and political context.[50]

The organisation of civil science

Whilst the Society's tercentenary celebrations in 1960 attempted to give the impression that it was as central in the scientific community as ever, Collins claims that the Society's role in national science had diminished to a level whereby it was resigned to fill in the remaining gaps that were not occupied by other government agencies. Under Hinshelwood an attempt had been made to persuade the Science Minister, Lord Hailsham, to establish an over-arching body - the Scientific Research Grants Committee (SRGC) - with an executive drawn entirely from the Royal Society. The suggestion was that a SRGC would co-ordinate national spending on scientific research grants and represent the Society's interests in pure research, on the grounds that the Research Councils were concerned primarily with applied research, via an executive consisting of the PRS as Chair, two Officers of the Society, and several Fellows. Membership would also include the heads of the Research Councils, the UGC, and the ACSP.[51]

The Research Councils opposed the proposal, perceiving it as a threat to their role, and the Officers were told that such radical change would not be possible. Under Florey's presidency, a subsequent attempt was made to reactivate the idea, only

[49] Collins (2010), 119-121; See also Collins P. (2011): "Presidential politics: the controversial election of 1945", *Notes and Records of the Royal Society* **65**, 325–342, especially pp329, 337-338.
[50] Collins (2010), 120-122 ; Collins (2011), 338.
[51] Collins (2010), 122.

this time there was no explicit reference to a role for the Society. Again, the proposal found little favour with the ACSP, and was opposed by the Treasury and the Research Councils. Lord Hailsham did not respond officially to either proposal, though he diplomatically overstated the importance of the latter proposal in influencing the establishment of the Trend Committee Enquiry into the Administrative Organisation of Civil Science.[52]

The Society's written submission to the Trend Enquiry again centred on their perceived need for an over-arching policy-making and budget-setting body for civil science. Yet, Trend's final report, published in 1963, only served to further marginalise the Society. The roles that it did recognise for the Society, and argued should continue, were its consultation on senior scientific positions, its research professorship scheme, and its continuing role in non-governmental international scientific relations. Subsequently, due to its increasingly peripheral relation to the government machine, Florey and his Officers decided that, alongside those roles already outlined for it, the Society must fill an important role as an *independent* scientific adviser.[53] It is interesting that this was a position the Society increasingly retreated to following its inability to secure a more executive role in British science, rather than a default position.

National and international science

Some of the Society's activities in international scientific relations from the mid-1960s are explored in chapters 3-5. During this time, they qualitatively and quantitatively expanded their work in this area.[54] This work brought its Officers and staff into very close relations with the government. Chapters 3 and 5 reveal how close this relationship was, whilst chapter 4 provides an important caveat by showing how the Society could be ignored and excluded when convenient. Therefore, these three chapters taken together give a detailed and nuanced account of the nature of the 'special relationship' between the two institutions.

The post-war period provided specific challenges for the Society which lay at the interface of national and international affairs. Its international activities were also

[52] Ibid. 123-124.
[53] Ibid. 121, 124-126.
[54] Rowlinson (1992), 15-16.

motivated by domestic concerns about preserving Britain's position as a scientific 'Mecca', to use a term coined by the Assistant Secretary, David Martin in 1961.[55] In the shifting post-war landscape, in which the country became more dependent on outside help and conscious of its relative decline in economic and political power, the Society looked beyond national borders to stay in the competition.

I will show that the Society's concern with comparative levels of funding was linked to the rise of 'big science', and its *Post-war Needs of Fundamental Science* report drawn up during WWII was a testament to this.[56] However, the preoccupation also predated WWII; in the interwar period, the Empire was seen as a way of providing the means to compete with the USA for scientific superiority.[57] For the post-war period, I show how the Officers of the Society responded creatively to the changing geopolitical landscape as old spheres of influence waned, such as the Empire-Commonwealth, and new ones opened up, such as the European Community and the special relationship with America.[58] Chapters 2 and 3 build on limited scholarship in this area to show how the Society pursued these new opportunities with patriotic ambition, often prioritising relations that promised scientific rather than political gains, but always within a Western framework.

## 0.5 Nationalism and internationalism: the paradox of the Society's post-war position

The Trend Report recognised one of the Society's key functions as speaking to the international scientific community. Indeed, one of the principal aims of the thesis is to detail the Society's many activities in this arena since WWII. Stephen Cox,

[55] David Martin used this term in a report he produced for the Foreign Office in 1961: RS Officers' Minutes [OM/ 6 (61)] 'Scientific Progress and Foreign Policy: Note by D. C. Martin'.
[56] RS Council Minutes vol 16 (1940-45) 14/12/1944 pp334-360 Appendix A: "Report on the needs of research in the fundamental sciences after the war".
[57] Worboys M. (1979): *Science and British Colonial Imperialism, 1895-1940*, Unpublished DPhil Thesis, University of Sussex.
[58] See Home R. W. (2003): "The Royal Society and the Empire: The Colonial and Commonwealth Fellowship Part 2. After 1847", *Notes and Records of the Royal Society of London* **57** (1), 47-84, for a discussion of how the Society gradually modified their rules on foreign membership in order to retain cultural hegemony in the post-war period; and MacLeod R. (2010): "The Royal Society and the Commonwealth: Old Friendships, New Frontiers", *Notes and Records of the Royal Society of London* **64,** 137-149, for his analysis of the Society's trajectory from Empire-Commonwealth to Europe and America (also discussed in chapter 2).

the Executive Director of the Royal Society, 1997-2011, has set out how the Society played an important role in post-war reconstruction, in re-establishing scientific co-operation and encouraging the revival of international exchanges.[59] Their earlier post-war activity in this area focused primarily on Eastern Bloc countries, and more so from 1965, on Western Europe. Cox argues that the Society's involvement in reconstruction stemmed from its recognition that scientific principles are universal and not to be constrained by national boundaries.[60]

However, the Society's role in post-war reconstruction was not simply about universal scientific values, but Cold War diplomacy. In the American context, John Krige and Frances Stonor Saunders have both explored how international scientific activities (conferences, publications, exchanges etc.) were sponsored by interested governments and private agencies as strategic attempts to share Western ideology as well as scientific information with European countries vulnerable to the influence of communism.[61] The Society's scientific exchange programmes with Eastern Europe were funded by the Foreign Office Information Vote, via the British Council, and the Royal Society European Programme was part-funded by the US Ford Foundation, alongside money from the Department for Education and Science.[62] During the Cold War, the Ford Foundation funded anti-communist activities in Europe.[63]

In the thesis I explore the tension between the Society's role in international political affairs and the apolitical, independent image it hoped to promote and staunchly defended. The Officers that met with Florey in the wake of the Trend report in October 1964 (to discuss future roles for the Society in running British science) were self-consciously paradoxical on this matter because they felt that the

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[59] The post 'Executive Secretary' was retitled 'Executive Director' in 2010. http://royalsociety.org/about-us/governance/executive-director/ accessed 20/03/2013.
[60] Cox S. (2010): "The Royal Society in Cold War Europe", *Notes and Records of the Royal Society* **64**, 132, 135.
[61] Krige J. (2006): *American Hegemony and the Postwar Reconstruction of Science in Europe* (Massachusetts Institute of Technology Press); Saunders, F. S. (1999): *Who Paid the Piper? The CIA and the Cultural Cold War* (Great Britain: Granta Books).
[62] On funding for East European exchanges through the Information Vote, see TNA Foreign and Commonwealth Office [FCO 55/233] 'Steering brief for Mr Mulley's meeting with the Royal Society (1968-69)': items 9, 13 p12.
[63] Krige (2006); Saunders (1999).

Society was particularly well-placed to co-ordinate non-governmental international scientific affairs precisely because its fellowship was so well connected - socially, informally - to the inner-circles of government.[64]

## 0.6 Western allies

Despite the rhetoric of universalism and internationalism used by the Society, especially after the onset of Cold War, the Society represented British interests in a network of Western organisations, many of which were set against similar organisations in the Eastern bloc. The Society operated comfortably within these parameters during the post-war period due to the broad pro-Western consensus that existed between like-minded politicians, civil servants and Officers.

The Cold War was fought on less tangible fronts to a conventional war because all-out nuclear war between the USA and the Soviet Union was not a realistic option. John Krige, Greta Jones and Frances Stonor Saunders are among those who have explored how the Cold War was fought on cultural fronts, by organisations and individuals using diplomatic tools such as international scientific exchanges to foster attitudes sympathetic to Western ideals. Each chapter adds value and complexity to the big picture of the thesis, which analyses the Royal Society's position, nationally and internationally, in relation to the ideologies of the Cold War. It is therefore interesting to weave a thread through the different chapters by discussing to what extent the Royal Society can be said to have 'fought' the Cold War.

Chapter 1 shows how, in the emerging Cold War climate of the late 1940s, the Society became an emblem of Western liberal values. However, there was no consensus on this within the fellowship; it was contested vigorously by progressive/left-wing Fellows. Rather, the Society was at the centre of a tug of war which eventually ended in victory for a subset of liberal Fellows who happened to be in executive positions at that time.

In chapter 2, I discuss how the Society oversaw and recommended a transition towards greater scientific-military integration with America in the emerging Cold

[64] Collins (2010), 125-126.

War context. In this circumstance, its Officers appeared to almost take for granted its 'natural' political allegiance to the West. This attitude was also evident at a social and informal level amongst FRSs during the 1950s. The chapter shows that the Society's Establishment figures, including its presidents for the period 1940-55, had links to the counter-propaganda department of the Foreign Office, whilst its left-wing Fellows found themselves subject to suspicion and scrutiny, including by their colleagues in the fellowship. Evidence presented here points towards some pro-Western FRSs utilising informal networks to fight a Cold War front against other pro-Soviet elite scientists in this period.

Chapter 3 explores the establishment and operation of the Society's programme to strengthen Western European science in the mid-late 1960s through an exchange programme in the fundamental sciences. The Society's President and Foreign Secretary in this period secured funds from the Ford Foundation to finance the scheme by appealing to American ambitions to strengthen Western values in Europe. However, the chapter demonstrates that the Society's concerns did not stem from Eastern expansionism but scientific competition with America. Chapter 4 casts further doubt on the idea of the Society having a consistent foreign policy during the Cold War. It not only shows how the Society were not always in tune with the British government's agenda, but elucidates how its Officers put themselves in public opposition to a military development which sought to strengthen the Western allies' position in the continuing Cold War. In this case, I show how the Society (or at least its President) had its own (domestic) interests at heart, rather than those of the state.

Chapter 5, alongside sections of chapter 3, brings even more complexity and variety to the picture by discussing cases in which the Society's policies were very much in tune with (or made to fit) the British government's foreign policy regarding Mainland China and the Soviet Union in the late 1960s -1970s. Chapter 5 shows that the actions of key Officers' and staff in this context very much reflected the government's Cold War agenda. Yet, the chapter also discusses the existence of warring interest groups within the fellowship regarding the Society's international policy, which serves to highlight that the actions of the Officers and

staff did not always reflect a consensus view of the fellowship; rather, they often represented the interests and loyalties of a small executive.

To summarise, there was no consistent approach to foreign policy within the Society, and no consistent or simple relationship between it and the British government. Whilst the Society operated broadly within a Western framework, its actions were often subject to the interests of individuals, and represented no coherent approach. 'The Society' cannot therefore be described as having 'fought' the Cold War, although many of its Fellows, both executive and peripheral, could be thought of as having acted in this way. This inconsistency owes itself in part to the amorphous nature of the Society. Officers could significantly affect the activity of the Society and pursue personal interests or exploit personal connections during their time in office. Staff could equally have a huge personal impact, although often at a much less visible level. Indeed, many influential relationships and meetings were informal and/or private. Many Fellows moved seamlessly between different arenas, making the nature of 'the Royal Society', and the occasions in which Fellows did or did not represent it, hard to define.

## 0.7 What counts as 'the Royal Society'?

This is a conundrum that the actors themselves struggled with, as did scientific colleagues and government officials at home and abroad. In chapter 5 for example, we see two instances within the same case study of FRSs actions as individuals being interpreted as representing the Society. In the first instance, the Society's Foreign Secretary, Harold Thompson, was a member of a bilateral committee promoting cultural relations between Britain and the Soviet Union. He appeared on this committee as an individual, yet he acknowledged that it was conferred concomitantly by his position as Foreign Secretary, and believed that scientists and science academies abroad did not always recognise the distinction between his actions as an individual, and his actions as a direct representative of the Society. In the second instance, John Ziman FRS, an ordinary member of the fellowship at the time, wrote to *Nature* to express his views about international scientists and foreign policy. This letter was interpreted by a scientific colleague in the Soviet Union as a personal slight on the Soviet Academy of Sciences from

the Royal Society. In other instances explored in the thesis, we see Officers of the Society exploiting its status as an institution to pursue individual agendas.

The amorphous nature of the Society presents a challenge to historians wishing to explore its identity. The idea of a supra-personal cognitive system is abhorrent to historians, and so we must investigate at the level of individual personalities, belief systems and motivations. Yet there is a danger that if one focuses too closely on an individual, the analytical relevance to the 'institution' is lost in the process.

Mary Douglas in her 1986 book *How Institutions Think* provides an interesting framework for thinking about how to deal with this conundrum. Whilst an institution cannot 'think' and 'behave', it represents more than just a group of individuals because something ties them together. In the case of the Royal Society, this thing is science, or rather, scientific excellence. Yet, despite this common ground, FRSs are a varied group of characters who do not even share the same set of ideals about the thing that unites them.

To take political worldviews during the Cold War as the focal point, belief systems within the fellowship represented as broad a spectrum as those in Britain as a whole. A decision taken by 'the Royal Society' did not represent a supra-personal belief; it represented a compromise made amongst individuals with varying beliefs (or a decision taken in private by an executive individual on behalf of the institution). Douglas makes a pertinent point when she comments that "writing about cooperation and solidarity means writing at the same time about rejection and mistrust".[65] Indeed, in the thesis I have endeavoured to deconstruct 'consensus' decisions in order to expose the complexity, dissent and injustice hidden behind such 'institutional' behaviour. I have also attempted to open up the world of the private and informal decisions made behind closed doors by a privileged subset of FRSs (and staff) chosen (or appointed) to represent the Society.

[65] Douglas M. (1987, first published 1986): *How Institutions Think* (London: Routledge & Kegan Paul Ltd), 1.

There is, however, an important caveat: individuals within an institution, especially one as old as the Royal Society, do not start with a blank slate - they operate within historical parameters. This means that historical precedence can affect which solutions are seen as appropriate to problems faced by the institution.[66] Therefore, my analysis has also focused on how individual Fellows interpreted and mobilised the Society's traditions in order to argue for certain institutional outcomes.

In conclusion, the thesis attempts to approach this historians' and actors' conundrum by constantly juxtaposing the actions and belief systems of individuals with the policy and public face of the institution. I explore political sub-groups within the fellowship and expose the disagreement behind 'consensus' decisions. Where I do focus on individuals' stories, they have a greater relevance to the overall picture and add value to the analysis of the institution.

## 0.8 The role of lunch and informality

Several historians have highlighted the importance of an informal 'backroom' culture in the relations between the Society and the government. Philip Chaston in his 1997 thesis *Gentlemanly professionals within the civil service: Scientists as insiders during the interwar period,* argues that there was a strong overlap between membership of the Royal Society and membership of the Athenaeum Club, which had a dual role as a gentleman's club and as a backroom for civil service lobbying. It was a place where Fellows formed a scientific contingent within the 'Great and the Good'.[67]

Jeff Hughes has shown the same dynamic at work between the Society's permanent staff and the civil service. His study of David Martin's diary (Assistant Secretary 1947- 62, Executive Secretary 1962-76) also draws attention to the number of Martin's lunchtime appointments, which allowed him to mix social and

[66] See also Douglas (1987) on 'institutional thinking': sometimes an answer is only seen to be the right one if it complements the belief systems and thought processes of individuals who have become 'institutionalised'.
[67] Chaston P. (Oct 1997): *Gentlemanly professionals within the civil service: Scientists as insiders during the interwar period* (unpublished thesis – The University of Kent at Canterbury).

professional activities and extend his network of contacts.[68] Hughes introduces the idea of the 'invisible administrator' working behind the scenes, and argues that more historical attention should be paid to the roles of scientific administrators and managers, especially given the enormous growth of the bureaucracy of science in the twentieth century.[69] The thesis takes up this invitation and explores the roles of permanent staff (from both the civil service and the Society) in providing contingency to informal relations between the two institutions. In doing so, I show the importance of the Assistant/Executive Secretary and staff in the work of the Society, and counter the bias in previous accounts towards the actions of the President.[70]

The thesis also builds on the model provided by John Krige in his study of the relationship between the Rockefeller Foundation and the US Administration during the Cold War, by looking at the extent to which the Society's activities were underpinned by shared values between science administrators and civil servants. I also explore an added dynamic of equal importance which was the differences in values, aims and interests between government ministries and departments and even within these. Overall, I aim to develop a nuanced picture of relationships, formal and informal, and how these changed. This matter is discussed in chapter 5 in relation to the plight of dissidents in the Eastern Bloc, when some Fellows became unhappy about the informal and private nature of the relationship between Officers, staff and government administrators.

## 0.9 Methods

Any attempt to research the history of the Society has to address the question I opened with: what was the Society and to what extent was it defined by the actions of its Officers, Council or Fellows? In other words, at which point did an

[68] Hughes J. (2012): "Doing Diaries: David Martin, the Royal Society and scientific London, 1947-1950", *Notes and Records of the Royal Society* **66**, 286-287.
[69] Hughes (2012), 274, 291.
[70] For example, Nye argues that Blackett's straddling of the Society and Government in the mid-late 1960s strengthened ties between the two institutions and ensured the Society's continued role in education and research. Nye M. J. (2004): *Blackett: Physics, War, and Politics in the Twentieth Century* (USA: Harvard University Press), 159-160; Rowlinson also argues that Blackett, as someone who identified with the Labour Party, and a friend of Harold Wilson, ensured that links were close between the Society and the Government during his Presidency. Rowlinson (1992), 18.

individual Fellow's actions constitute a legitimate focus of inquiry? It follows that questions are raised as to which are the most appropriate sources to shed light on the Society's history: Council minutes, personal archives, Officers' minutes, institutional or external sources?

I have confronted this conundrum throughout the research and been guided by what the sources revealed about key actors and actions at different times and places. The density of the records meant that I was never short of in-house sources, but this also meant that I had to learn to read 'against' the sources. For instance, when documents began to reveal that informal relations played a key role in the relationships amongst Fellows and between Fellows and the government, my research moved further away from minuted meetings and towards sources which could shed light on hidden stories, such as personal archives, memoirs, recently declassified government files, and occasionally, personal communication. Unfortunately, due to the unavailability of most desired interviewees, I have not been able to make good use of oral histories in the thesis.

Given this scope to approach a study of the Society from a number of different angles, I focused on several themes which promised to generate revealing and important comparisons between individual Fellows and the Society as an institution. First, a focus on the internal body politic of the Society allowed me to look at both groups and individuals and their impact on Council or Officers' decisions. Second, a focus on episodes where there was division amongst Fellows on how the Society should act allowed me to study how different actors wanted the Society to be perceived. Third, exploring the relationship between the Society and the government allowed me to analyse the boundaries that individuals negotiated, both as individual Fellows, and on behalf of the Society as an institution. Finally, the fluidity of this method allowed for a varied study of an institution which itself is very fluid. It compliments an overall approach which seeks to explore how the 'Royal Society' as a brand was negotiated by a number of different actors.

The existing literature on the Society in the post-war period is sparse. Those who have tackled it have taken various approaches. Jeff Hughes, for instance, has made good use of personal archives to shed light on the Society's workings, whilst Peter

Collins, who has worked at the Society in many roles since 1981, has taken an institutional approach, making more use of Council Minutes, Officers' Minutes, interviews with Fellows, and tacit institutional knowledge.[71] I have utilised elements of both these approaches and juxtaposed contrasting sources. The National Archives have not been well used until now, and an important innovation in my work is that I have extensively used material available at the National Archives and suggested further avenues for investigation.

An evident historiographical problem from the outset was how to 'find a way in' to the archives. The dearth of existing literature on the Society in this period meant that there were few secondary sources that highlighted avenues of investigation, or that I could bounce interpretations against. The exception to this was the subject matter of chapter 1, which was conceived by taking a well-known episode in the history of science – the freedom and planning debate – and investigating its manifestation in the Royal Society. This approach enabled me to simultaneously shed new light on a well-known episode, and approach the archives with a good understanding of where significant material might be located.

At times, the Council Minutes provided an opening to key episodes for the Society, such as was the case with chapters 4 and 5. This generated parameters with which to target relevant archives. Notably, these two chapters are the ones that more closely resemble case studies, which is perhaps revealing as to how the Council Minutes are best used. The subject and content of chapters 2 and 3 were much more difficult to define as they were conceived to address issues that spanned longer periods or were more synoptic. These chapters have a different character from chapters 4 and 5, as they make broader claims.

[71] Dr. Peter Collins is Director of the Royal Society Centre for the History of Science. Previous roles: 1981-84, member of staff, science policy; 1985-94, Head, Science and Engineering Policy Studies Unit; 1995-99, Head, Science Advice; 1999-2008, Director of Science Policy; 1999+, Director, Council and Fellowship Office.

## 0.10 Exclusions

There are several areas I have intentionally avoided in order to make for a more manageable and coherent thesis. The first topic I could not cover extensively was that of the Society's role in organising and promoting the International Geophysical Year (IGY). The primary material was vast and could constitute a thesis on its own; I had to limit my analysis to the political debates surrounding its organisation. However, it was clear from my preliminary work that a study of the Society's involvement with the IGY would open up avenues of investigation regarding the Society's relation to the Royal Navy, its use of military facilities, and relationships with the defence ministries and government scientists in general. I believe that such a study could also sit in a thesis more widely cast on the Society's military relations. That said, I have not ignored Society-military relations, and they form an important theme in chapter 4.

On a related note, the thesis does not engage with the Society's relation to the space race or British space research. This has already been covered comprehensively in Matthew Godwin's *Skylark Rocket*, and is now being further addressed by doctoral candidate Stuart Butler at the University of Manchester.[72]

In the interests of keeping the focus on the Royal Society, I have not looked closely at Fellows who were quite isolated in the government machinery such as Solly Zuckerman or Henry Tizard (post-1945). This was to reduce the danger of producing a history that was too disparate and prosopographical; instead I have focused on Fellows who were more central to the development of the Society, or central to an important episode in the Society's history. There are biographies of many of the leading historical actors in the thesis and I have used these extensively. I would claim, however, that my approach will throw new light on the ideas and actions of key figures in post-war British science set against that of a personal career or trajectory. The thesis also explores less well-known figures, not due to an 'anti-hero' agenda, but because they were genuinely central to the story. These characters represent a mixture of staff, Fellows, Council members, Officers and Presidents, those at the centre of Society business and those on the periphery.

[72] Godwin M. (2007): *The Skylark Rocket: British Space Science and the European Space Research Organisation 1957-1972* (Paris: Beauchesne). See also: Pounds K. (2010): "The Royal Society's formative role in UK space research", *Notes and Records of the Royal Society* **64**, 65-76.

The thesis provides an interesting insight into these less explored candidates, such as Harold Thompson, Henry Dale and Eric Burhop, whilst not ignoring well-known characters such as J.D. Bernal, Patrick Blackett and A.V. Hill, where they are relevant.

On a related note, I have also tried to look at less obvious sources and stories, rather than treading obvious paths which have already been explored such as Blackett's relationship with Harold Wilson, for example. Whilst not ignoring such stories, I have avoided using them as the primary point of investigation. Having said this, channels of inquiry have inadvertently cast an interesting light on well-documented episodes, such as was the case with the Blackett and Wilson relationship in both chapters 3 and 4.

### 0.11 Summary

Many of the Fellows who took an active interest in the social role of science in the 1940s were concerned with the question of the Society's future direction, and crucially, whether it should become more or less involved with policy and national affairs. The Fellows' negotiation of this question during and immediately after WWII was very revealing of contemporary political attitudes and is the main subject of chapter 1, which explores the freedom and planning debate through the lens of the Royal Society.

Chapter 2 considers the Society during the earlier post-war years (1945-64) in which left-wing, certainly communist, ideology was stifled in Britain, and Britain became increasingly allied to Western partners in the Cold War. I consider how involved the Society was and wanted to be in national affairs. In addition I explore the Society's role in international affairs, notably the transition from Empire to Commonwealth, and continue this theme in chapter 3, discussing its engagement with Britain's European agenda, against a backdrop of an increasingly close relationship with the Foreign and Commonwealth Office.

Chapter 4 looks at the 'Aldabra affair'- a controversy in the late 1960s over the plans to build an Anglo-American military airfield on the Island of Aldabra in the Indian Ocean, a site of special scientific interest to ecologists and geologists. I

throw new light on the abandonment of the project, questioning the importance of the Royal Society's role in influencing that decision. Chapter 5 provides a contrast to the high public profile of the Aldabra affair, by looking at the effort that was made 'behind closed doors' to help dissident Eastern Bloc scientists. Chapters 3 and 5 also explore how the Society interacted with its Chinese and Russian counterparts in the Academia Sinica and Soviet Academy of Sciences. In doing so, they add comparative value to analysis in chapters 3 and 4 of the Society's relations with Western academies.

# CHAPTER 1

## The new Jerusalem and the *New Atlantis*: tradition and progress at the Royal Society, 1939-49



### 1.1 Introduction

Anxieties had mounted amongst the traditional scientific elite during World War II (WWII) that the Marxist proclamations of the scientific Left would find favour in a period of post-war reconstruction. *The Society for Freedom in Science* (SFS), a

right wing group, formed to counter the advocates of the central planning of science, proclaiming that science should be pursued for science's sake and not made subservient to the needs of society.

In this chapter I explore the 'freedom and planning debate' through the lens of the Royal Society, highlighting two themes. Firstly, I consider Henry Dale's engagement with the episode as wartime President of the Royal Society, and his reputation as a 'middle man' in the debate. In parallel I discuss the tactics employed by some executive members of the Society to exercise influence on the debate through informal channels, during a period when publicly they remained aloof from politicised debates on science. Secondly, I investigate how the Royal Society itself was made a contested exemplar in the freedom and planning debate. I will discuss how Fellows produced polarised prescriptions for the future of science from the views of its founders and the charter of 1663 onwards, using the past to help resolve the conflict. This conflict was a product of the political culture of the period; it was primarily an argument between liberals and socialists about the proper role for science in society. Their competing ideas were closely allied with a wider conflict between tradition and progress in post-war society, a conflict that was explored via literary depictions of science in utopia and dystopia.

## 1.2 'Let us face the future'

During the 1940s, the term 'new Jerusalem' was often used in political circles to depict a post-war promised land of renewal, re-building and new beginnings, not only in a physical sense (i.e. with a post-war social housing programme), but also perhaps in an emotional and spiritual sense, given the religious connotations of the term.[1] Whilst politicians may have disagreed over the exact implementation and feasibility of a new Jerusalem, David Kynaston argues that there was a broad

[1] The term 'new Jerusalem' can refer to the Holy or Celestial City, as depicted in the Bible, or its physical representation in the City of Jerusalem in Palestine (Israel). The term can also refer more broadly to an ideal or heavenly city, or an ideal community. Its meaning as a promised land or ideal, lends itself to pejorative use in political rhetoric as a false idol (e.g. to highlight unfulfilled or unfeasible promises). In Hansard, the term was used throughout the 1940s, both positively and pejoratively. By rough estimations, the term first appears in Hansard in 1903 (it does not appear between 1850 and 1903), but its use between then and the 1940s is fairly sparse. Oxford English Dictionary; American Heritage Dictionary; Hansard (all accessed 25/01/ 2011).

consensus that the people deserved a new start after the war and that post-war Britain must be planned.[2]

The use of the word 'planning' was, of course, ambiguous; surely any national government must plan things? The 'planning' that became a frequent motif in political rhetoric in the 1930s was specifically associated with social economic intervention and public ownership, and was partly inspired by the perceived success of the politico-economic system in the Soviet Union during a period of economic slump in Britain. In this respect, there was no such consensus on 'planning' as it was closely allied with left-wing ideology; indeed, Churchill was one notable critic of the "planning doctrine". [3]

The unexpected Labour landslide in 1945 brought Clement Attlee and the Labour Government into office, and as such, centralised wartime controls found some duration in its policies.[4] Labour's Manifesto for the April 1945 election, titled 'Let Us Face the Future', had promised full employment, the nationalisation of several key industries, a social housing programme, and a national health service. Attlee implemented the Beveridge Report (which had already been accepted with some difficulty by the wartime coalition government), which proposed an unprecedented system of social security. The modern 'welfare state' was born (although Beveridge did not introduce the term himself), and, for the socialists at least, it was the prerequisite to the deliverance of the ideal community: "active, informed, classless, progressive", the new Jerusalem.[5]

In the emerging Cold War climate, Labour's socialist policies were perceived (or propagandised) as being aligned with communist principles, leading to what Robert Hewison called the "discomforting ambivalence of the Labour Party's position", since centralised organisation was viewed by many as a dangerous precursor to corruption and a totalitarian system of governance.[6] This ambivalence resounded in conservative scientific circles too, as there was an opportunity for the

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[2] Kynaston D. (2008, first published 2007): *Austerity Britain 1945-51* (London: Bloomsbury), 20.
[3] Francis M. (1997): *Ideas and Policies under Labour, 1945-51: Building a New Britain* (Manchester: Manchester University Press), 16-17; Kynaston (2008), 20, 31 – quoting Churchill.
[4] Hewison R. (1981): *In Anger: British Culture in the Cold War 1945-60* (New York: Oxford University Press), 3; Kynaston (2008), 5-60.
[5] Abel-Smith B. (1992): "The Beveridge Report: Its origins and outcomes", *International Social Security Review* **45** (1-2), 5-6, 13-14; Tomlinson J. (1998): "Why so Austere? The British Welfare State of the 1940s", *Journal of Social Policy* **27** (1), 63-64, 67-68; Kynaston (2008), 21, 31, 58.
[6] Hewison (1981), 26.

interwar Marxist enthusiasm for technocracy to manifest in post-war Labour policies.[7]

This Marxist enthusiasm, expressed in the planning movement of the scientific Left, originated in the summer of 1931 at the second International Congress of the History of Science and Technology in London.[8] It added momentum (notably scientific in character) to a reviving left-wing movement stirring outside parliamentary politics, largely organised by the Communist Party of Great Britain (CPGB). At the London conference, a large Soviet delegation led by Nicholai Bukharin (who had been a close associate of Lenin) made an impromptu appearance, sparked by a new propaganda drive designed to familiarise Westerners with the USSR's industrial and scientific progress. The Soviet delegation left a lasting impression on those scientists who emerged as leaders in the scientific Left and the left-wing movement in general. They outlined not only a Marxist interpretation of the History of Science which became very influential, but an analysis of science and the social order which stressed the incompatibility of scientific progress and capitalism – most notably the assertion that the 'capitalist' separation of pure and applied science stunted technical growth. In contrast, they proclaimed, the Soviets' five-year plan for rapid industrialisation had been so successful because socialism fused together mental (scientists') and manual (workers') labour, whereas capitalism divided it in a hierarchical system.[9]

John Desmond Bernal (FRS 1937) became the leader of the scientific Left which emerged from Cambridge in the thirties.[10] As the embodiment of the Marxist

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[7] McGucken W. (1978): "On Freedom and Planning in Science: The Society for Freedom in Science, 1940-46", *Minerva* **16** (1), 46, 50-51; Hewison (1981), 3.

[8] Werskey G. (1988, first published 1978): *The Visible College: A Collective Biography of British Scientists and Socialists of the 1930s* (London: Free Association Books), 138.
It is unusual to be able to state the beginning of a movement with such certainty, but contemporary intellectuals have since observed this with remarkable consensus. For example, see: Baker J. R., Tansley A. G. (26 Oct 1946): "The Course of the Controversy on Freedom in Science", *Nature* **158** (4017), 574; RS Dale [HD/14/36] 'Society for Freedom in Science, 1941-1963': item 8 "The Objects of the SFS"; item 59 "Society for Freedom in Science Bulletin No. 6 November 1949"; Hodgkin D. M. C. (1980): "John Desmond Bernal. 10 May 1901-15 September 1971", *Biographical Memoirs of Fellows of the Royal Society* **26**, 64.

[9] Werskey (1988), 136, 138-147, 216

[10] **J D Bernal** was best known in the scientific field for his work in X-ray crystallography and molecular biology. At the onset of WWII he was posted to the Research and Experimental Department of the Ministry of Home Security to work on air raid precautions, where he specialised in the effects of bombing. In 1941 Bernal was seconded to Bomber Command and then to Combined Operations, and spent some time in Libya studying the effects of allied and enemy bombing, with Zuckerman. From 1945-1949 he was Chairman of the Scientific Committee of the

enthusiasm for the central planning of science, Bernal's 1939 book *Social Function of Science* was the first comprehensive expression of these ideas, and encouraged the use of the term 'Bernalism' as an appropriate label for like-minded people.[11] In the wake of the 1931 London conference, Bernal said that the Russians left behind a dilemma – whether to be free or useful – the implication being that only a socialist or communist state had the appropriate machinery to apply scientific knowledge fully and humanely for the people's welfare, but it also made the scientist a component part of that machinery.[12] Later, Bernal would develop a more nuanced approach to the idea of intellectual freedom in a centrally planned state, arguing that a planned scientific economy could actually provide *more* freedom because scientists were *conscious* of the integration of their work into production and culture; however, there was still recognition of the need to continue to support research with no immediate practical benefit.[13] The mantra of Bernalism was that the advance of science was not compatible with capitalism, and this message was transmitted through the left-wing movement led by the CPGB, whose membership had proliferated significantly by the start of WWII.[14]

In many ways, the onset of war created a more receptive audience for Bernal's ideas about centrally-organised science. He was a member of the Left-leaning dining club, the 'Tots and Quots', first convened by Solly Zuckerman (FRS 1943) at Cambridge in 1931 and given new life during WWII. It included scientists Julian Huxley (FRS 1938), Patrick Blackett (FRS 1933), Joseph Needham (FRS 1941), Conrad Waddington (FRS 1947), Cyril Darlington (FRS 1941), Lancelot Hogben (FRS 1936), and science correspondents James Gerald Crowther and Peter Ritchie Calder. In July 1940 this group anonymously published a Penguin book *Science in War*; conceived shortly after Hitler's invasion of France and the

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Ministry of Works and "became occupied in finding methods of rebuilding and re-housing bombed-out people in the cheapest and most rapid way" (p62). Hodgkin (1980), 53-54, 62.

[11] McGucken (1978), 44; Werskey (1988), 215; RS Dale [HD/14/36]: item 8 "Objects of the Society for Freedom in Science" May 1944.

[12] Werskey (1988), 147, 177, 190.

[13] Ibid. 195.

Bernal believed that the advance of science was not compatible with capitalism (as was being proven by the economic depression). Moreover, that the socialist transformation predicted by Marx was fast approaching; science as the chief agent of change in society had brought this about but science itself could not overthrow the ruling class, rather, the people would have to make the revolution happen. For Bernal, science *was* communism and science would play an important role in Bernal's envisioned utopia. Werskey (1988), 177, 195, 198, 197, 253.

[14] Ibid. 136.

evacuation of British troops from Dunkirk, it argued that science and scientific manpower could be put to more effective use in the war effort. The publication was widely read, and in the wake of the public debate it generated, membership of the left-wing Association of Scientific Workers (AScW) expanded rapidly.[15]

The nascent wartime experience of (central) scientific organisation added another layer to anxiety amongst scientists of a liberal or right-wing persuasion, who desired that its central organisation would not be allowed to persist into peacetime. This fresh anxiety, coupled with the events of the 1930s, was crucial to the emergence of the *Society for Freedom in Science* (SFS) that was formed in 1940 to challenge Bernalism. The biologist John Randal Baker had written an article 'Counterblast to Bernalism' which appeared in the *New Statesman and Nation* in 1939. It was noticed by Michael Polanyi, a chemist, who subsequently made contact with Baker and between them they founded the SFS along with Arthur George Tansley FRS.[16]

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[15] Nye M. J. (2004): *Blackett: Physics, War, and Politics in the Twentieth Century* (USA: Harvard University Press), 35-36, 158; McGucken W. (1984): *Scientists, Society, and State: The Social Relations of Science Movement in Great Britain 1931-1947* (Columbus: Ohio State University Press), 187-88; Brown A. (2005): *J. D. Bernal: the sage of science* (USA: Oxford University Press), 175-6.
The publication's success was partly responsible for the Government's decision to establish, in October 1940, a central scientific advisory committee, for which the Society had been lobbying. McGucken (1984), 194-195.

[16] Polanyi M. (June 1945): *Rights and Duties of Science: Occasional Pamphlet No. 2* (Oxford: Society for Freedom in Science); RS Dale [HD/14/36]: item 8 "Objects of the Society for Freedom in Science" May 1944; item 59 "Society for Freedom in Science Bulletin No. 6 November 1949"; item 69 Baker to 49 distinguished British scientists believed to be sympathetic, 02/11/1940 - the initial letter that spawned the SFS; McGucken (1978), 44-45.
**J. R. Baker** (FRS 1958), was a biologist specialising in cytology. He was a committed Unitarian. Too old to fight, he was engaged in local civil defence during WWII. He has been described as shy, and would only attend social gatherings if they had a definite purpose. He could be very blunt and once described himself as having "sincerity 100%; tact nil". His approach to his scientific work has been described as "blinkered", as he showed intolerance to others' beliefs and delighted in open controversy. Brunet P. C. J., Willmer E. N. (1985): "John Randal Baker. 23 October 1900-8 June 1984", *Biographical Memoirs of Fellows of the Royal Society* **31**, 46-48, 50.
**Michael Polanyi** (FRS 1944) was a physical chemist. Hungarian-born, he served as a medical officer for Austria-Hungary during WWI. In the interwar period, he moved to Germany, where Hitler was rising to prominence. In protest at the dismissal of a number of Jewish scientists, Polanyi emigrated to Britain in 1933 to become Chair of Physical Chemistry at the University of Manchester. It was around WWII that his interest in economic and philosophical problems began to outstrip that of chemistry, and in 1948 Polanyi moved to a new Chair in Social Studies. Hodgkin R. A., Wigner E. P. (1977): "Michael Polanyi. 12 March 1891 - 22 February 1976", *Biographical Memoirs of Fellows of the Royal Society* **23**, 414, 416, 424-425. It was at Manchester that he was to be found arguing frequently with Blackett about issues relating to freedom and planning in science. However, they remained good friends despite their difference of opinion. Hodgkin, Wigner (1977), 424-5; Brunet, Willmer (1985), 48; Nye M. J. (2007): "Manchester friends at odds: Michael Polanyi, P. M. S. Blackett and the scientist as political speaker", in Pickstone J. V. (ed)

The SFS was driven by the concern that the advocates of planning were influential amongst young scientists, in the media and within government. David Edgerton argues that there was a move to the Left in the scientific community as a whole at this time, demonstrated by the clear rise in membership and radicalisation of the AScW, which became a trade union in 1941. The AScW had adopted the ideas of the scientific Left as part of its policy and the SFS felt that the press were reporting its views as the general view of all scientists.[17] Therefore, the SFS saw it as their duty to provide a focus for the opposite point of view, namely that science could not advance under communism because the power would be in the hands of the state to make science subservient to a political ideology.[18] Furthermore, SFS propaganda stated that scientific advance proceeded by serendipity and could not be planned and predicted.[19]

For both camps, the Soviet Union was an exemplar. For the advocates of planning, it demonstrated that the speed of scientific advance accelerated under a communist economy, which could effectively utilise science for public good. For those who supported the SFS, it showed how a state-planned economy allowed the state to corrupt science for political ends and restricted scientific workers' intellectual and political liberty.

During WWII it had seemed as though the post-war period of reconstruction would offer the potential to put the planners' doctrine into action, but the SFS were theoretically armed and ready to act when necessary against the advocates of central organisation.[20] An SFS pamphlet in 1944 claimed that:

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*The History of Science and Technology in the North West: Manchester Region History Review Volume 18* (Manchester Centre for Regional History), 106-129.

**Arthur Tansley** (FRS 1915), was a botanist with an additional interest in psychology. He served on the RS Council from 1931 to 1933. He "derived extreme pleasure from his election to the Athenaeum under Rule 2 in 1928". He has been described as a man who "formed deep friendships with a limited number of folk". Godwin H. (1957): "Arthur George Tansley. 1871-1955", *Biographical Memoirs of Fellows of the Royal Society* **3**, 241, 243.

[17] Edgerton D. (2011): *Britain's War Machine: Weapons, Resources and Experts in the Second World War* (London: Penguin Books Ltd.), 141; RS Dale [HD/14/36]: item 8 "Objects of the Society for Freedom in Science" May 1944; item 69, Baker to 49 distinguished British scientists believed to be sympathetic, 02/11/1940 (the initial letter that spawned the SFS); item 81, Dale to Baker, 15/09/1950.

[18] RS Hill [MDA/A/28/25] 'Correspondence of A V Hill, Arthur George Tansley - P R Tingley, 1945': Tansley to Hill, 07/06/1941.

[19] McGucken (1978), 47.

[20] Werskey (1988), 266, 271-272, 277.

> It is thought that the Society has already had considerable influence. The totalitarian view does not now go unanswered, whether in conversation or in print, as it so often did in the 'thirties'.[21]

## 1.3 Recovering the centre ground

### 1.3.1 Two camps[22]

Most key players in the freedom and planning debate were Fellows of the Royal Society and I have presented those active in the portraits below. The Fellows are presented in an approximate political spectrum, stretching between left and right, and show where these scientists are usually placed by historians. This linear representation does not map the far Left to the far Right, but rather a spectrum from pro-communism to anti-communism, or *inspired* by the Soviet example of scientific organisation to *appalled* by the Soviet example. All had been elected to the fellowship before 1939, except Polanyi who was elected during the period in 1944, and Baker who was elected much later in 1958.[23] J.G. Crowther is also a key figure as a publicist of the scientific Left; he was a policy-maker, science journalist, and member of the CPGB, who became heavily associated with the advocates of planning, and features later in this story.[24]

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[21] RS Dale [HD/14/36]: item 8 "Objects of the Society for Freedom in Science" May 1944.

[22] 'Two camps' refers to the Soviet Union's policy of that name which differentiated between two philosophies; the Eastern one proletarian, materialist, practical, anti-imperialist, the Western one bourgeois, idealist, imperialist and exploitative. Harman, O. S. (2003): "C. D. Darlington and the British and American Reaction to Lysenko and the Soviet Conception of Science", *Journal of the History of Biology* **36** (2), 312.

[23] An interesting question is why are they all Fellows (or future Fellows)? An answer could be that the kind of life that usually accompanies a FRS (advisor to state, government committees, heads of national labs and prominent universities) nurtures an interest in national life and political organisation. This perhaps goes some way to explaining why they polarised into the adversarial language of politics/ behaviour of politicians. Having said this, there were many Fellows who did not get involved with the debate and for this reason it is hard to trace their opinions on the matter or quantify the overall response of the fellowship to the controversy.
David Edgerton argues that during the freedom and planning debate, scientific intellectuals generally used the standard languages of other British public intellectuals, and were remarkably partial. Indeed, he argues, it is a mistake to think that science spoke its own distinct, more empirical, language. Edgerton (2011), 140-141.

[24] Muddiman D. (2007): "Science, Industry and the State: Scientific and Technical Information in Early-Twentieth-Century Britain", in Black A., Muddiman D., Plant H. (eds) *The Early Information Society: Information Management in Britain before the Computer* (GB: Ashgate), 68.

*Image 1: Left to right - J.D. Bernal, J.B.S. Haldane, P.M.S. Blackett,, H.H. Dale, A.V. Hill, A.G. Tansley, M. Polanyi, J.R. Baker.*[25]

Historians' attention has tended to focus on Fellows at the ends of my spectrum and they have painted a polarised debate between left-wing advocates of 'planning' and right-wing supporters of 'freedom'. In fact, the use of 'right-wing' or 'the scientific Right' can be misleading, except perhaps in the case of Baker. A more appropriate collective term for the intellectual opposition to the planners, or the scientific Left, is 'liberals'. Furthermore, whilst 'planners' is an actors' term, 'freedom' is more of a convenient anachronism drawn from the discourse of the SFS, and was not really used as a label to demarcate this group of individuals. In addition, the planners themselves did not feel that their ideology was inconsistent with scientific freedom.[26] I focus on two of the 'middle men' in the debate, Henry Dale and A.V. Hill, but first it is necessary briefly to discuss the usual suspects.

Bernal and Haldane had been members of the CPGB since 1923 and 1942 respectively, and Blackett had been an avowed socialist since the 1930s.[27] Haldane

[25] Bernal image, copyright unknown: http://www.iva.dk/bh/core%20concepts%20in%20lis/articles%20a-z/Vickery_texts.htm accessed 16/03/2013; John Burdon Sanderson Haldane by Bassano, 1939, © National Portrait Gallery, London; Patrick Maynard Stuart Blackett, 1st Baron Blackett by Walter Stoneman, 1942, © National Portrait Gallery, London; Sir Henry Hallett Dale by H. Wilson, Wellcome Library, London; Archibald Vivian Hill by Bassano, 1940, © National Portrait Gallery, London; Tansley image, copyright unknown: http://biogeographers.dvo.ru/images/0249.jpg accessed 16/03/2013; Michael Polanyi by Elliot and Fry, 1930s, © National Portrait Gallery, London; John Randal Baker by Elliot and Fry, 1930s, © National Portrait Gallery, London.

[26] Werskey (1988) has told us at length in *The Visible College* about the scientists Bernal, Haldane, Hogben, H. Levy and Needham and their public left-wing activities from the 1930s. Blackett is another character one might expect to come across in this context. Nye (2007) claims that Blackett opposed the central planning of science, and planned capitalism; he believed that socialism was the only way, and that scientific planning should remain autonomous. Harman (2003), however, describes him as a radical who believed that the fullest and most humane use of science could only be carried out in a socialist polity. Nye (2004), 113, 117, 121; Harman (2003), 335.
In McGucken's (1978) account of the controversy, the main characters providing opposition to the planners were Baker, Polanyi and Tansley, with Bernal and Crowther on the Left (Haldane, Hogben, Needham and Levy get a fleeting mention). However, McGucken does not talk about 'Left and Right', rather Marxists versus 'freedom in science'. Indeed, a criticism of McGucken is that he presents the 'freedom in science' camp as apolitical.

[27] Hodgkin (1980), 29; Pirie N. W. (1966): "John Burdon Sanderson Haldane. 1892-1964", *Biographical Memoirs of Fellows of the Royal Society* **12**, 222; Lovell B. (1975): "Patrick

and Bernal in particular (and also Crowther) were great supporters of the Soviet economic system, and particularly admired the successes of their five-year plan for rapid industrialisation.[28] Blackett and Bernal were instrumental in the revival of the AScW in the thirties (both serving terms as President between 1943-46 and 1946-49 respectively), and Bernal was credited as the prime inspiration for the Cambridge Scientists' Anti-War Group (affiliated with the Cambridge Anti-War Council set up by the CPGB). Both were considered 'front organisations' for scientists with socialist beliefs.[29]

Polanyi and Baker are positioned on the far right, as liberal, anti-Soviets.[30] Polanyi was a key member of the Congress for Cultural Freedom (CCF) from the early 1950s; an organisation that was later revealed to be sponsored by the CIA. The CCF operated as a major anti-communist propaganda agency in Europe, focusing on the right to intellectual freedom and freedom of expression.[31] Michael Kenny argues that Baker was a classic liberal and an apologist for imperial Britain.

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Maynard Stuart Blackett, Baron Blackett, of Chelsea. 18 November 1897-13 July 1974", *Biographical Memoirs of Fellows of the Royal Society* **21**, 75-76.
However, Bernal left the CPGB in 1933 to become an independent Marxist intellectual because he became convinced that his principal duty to the Marxist cause was to be a good scientist in order to demonstrate the compatibility of science and socialism, an argument put forward by Crowther. Werskey (1988), 153, 166; Haldane declared himself a Marxist and supporter of the CPGB in 1938 but did not become a member until 1942. Werskey (1988), 158, 160.

[28] **J.B.S. Haldane** (FRS 1932) was primarily a geneticist. He served with the Black Watch during WWI and "enjoyed the opportunity of killing people"(p220). He was chairman of the editorial board for the *Daily Worker* from 1940-1950. From 1957 he was engaged in scientific research in India. Subsequently he became an Indian citizen and moved there in 1962. Haldane became quite famous for his popular lectures and publications. He has been described by colleagues as "funnier than most professional comedians" (p224) but also as someone who was "habitually rude to unoffending people" and prone to explosions of anger (p237). Pirie (1966), 220, 221-222, 224, 237.
**Patrick Blackett** was a physicist. He served in the Navy as a young man during WWI, before going to Cambridge University. He filled many important roles during WWII as a military advisor, specialising in operational research. Perhaps most notably, he sat on the Maud Committee, to examine the feasibility of making an atomic bomb. He was awarded the Nobel Prize for Physics in 1948 for his work on cosmic rays. He was a member of the RS Council three times: 1940-42, 1944-46, 1963-65, and President 1965-70. Lovell (1975), 3-4, 70, 102, 106.

[29] Hodgkin (1980), 53; Lovell (1975), 46, 95-6; Werskey (1988), 217-8, 223-4; Muddiman D. (2003): "Red information scientist: the information career of J. D. Bernal", *Journal of Documentation* **59** (4), 388.
Although the Cambridge Scientists' Anti-War Group was founded by a group of left-wing individuals, the objectives of the group also attracted liberals, leaving the eighty-strong group struggling to achieve any ideological consensus. Werskey (1988), 223.

[30] Nye (2007), 116.

[31] Nye (2007), 120; Hodgkin & Wigner (1977), 429. Polanyi became a member of the CCF Executive Committee from around 1953 until 1968. The main objective of the CCF was to dispel the "lingering fascination with Marxism and Communism", and create a prevailing ethos sympathetic to American capitalist ideals. Saunders F. S. (1999): *Who Paid the Piper? The CIA and the Cultural Cold War* (Great Britain: Granta Books), 2.

Baker's science was inextricably linked to his politics; he felt that his research findings about inherent racial inequality were being opposed due to a cultural preoccupation with human equality.[32] Tansley's politics appear to have escaped the historian's attention, the most significant piece of evidence on his politics being his position and involvement in the SFS.[33]

Now we turn to Henry Hallett Dale and Archibald Vivian Hill (President and Biological Secretary of the Society respectively, 1940-45).[34] Hill had been active in the activities of the British Association for the Advancement of Science (BAAS) division for the social and international relations of science, a predominantly left-

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[32] Kenny M.G. (2004): "Racial Science in Social Context: John R. Baker on Eugenics, Race, and the Public Role of the Scientist", *Isis* **95**, 395, 399-400, 403, 409-410, 418-419.
Baker's feelings about freedom in science were therefore often coupled with frustration over the marginalisation of his work in genetics. Later in life, Baker found a home with the racialist right – he was concerned about non-white immigration into Britain, associated with anti-integrationists in the USA and supported the white rule of Rhodesia in the 1960s.

[33] Godwin (1957), 242; Cameron L., Forrester J. (1999): "'A Nice Type of the English Scientist': Tansley and Freud", *History Workshop Journal* **48**, 76.

[34] **Henry Dale** (FRS 1914) was a medical doctor and physiologist. During 1904 – 1914, he worked at the Wellcome Physiological Laboratories, being for the majority of this time, its Director. From 1914 he became a Director of (what became) the National Institute for Medical Research (NIMR), subsequently holding the position of first director 1928-42. During WWI Dale was a member of the research staff of the Medical Research Committee, working on wartime problems. In 1919 he was among those who suggested that it be reconstituted as, what became, the Medical Research Council. He later served on many of its advisory committees. In 1936 he shared the Nobel Prize in Physiology or Medicine with Otto Loewi for his work on the neurotransmitter acetylcholine. The same year, upon Sir Henry Wellcome's death, Dale was made one of five trustees of the Wellcome Trust. He was Biological Secretary of the Society, 1925-35. During WWII, he was kept busy as Director of the Royal Institution (1942-46) as well as being PRS and Chairman of the Scientific Advisory Committee to the War (and Post-war) Cabinet amongst other positions (see p154). Dale was a Christian, although he found some trouble in reconciling Christian dogma with science. He was said to have a very conservative attitude towards women (during his Directorship of NIMR, women were not allowed to use the staff coffee room), although his Presidency of the Society saw the first women elected as FRSs, in 1945. Feldberg W. S. (1970): "Henry Hallett Dale, 1875-1968", *Biographical Memoirs of Fellows of the Royal Society* **16**, 91, 93, 106, 115-116, 124, 139, 141, 147, 154, 158.
**AV Hill** (FRS 1918) was a physiologist. Upon the outbreak of WWI he joined the army, where from 1916, he directed an anti-aircraft experimental section in the munitions inventions department. He was awarded the 1922 Nobel Prize, joint with Meyerhof, for his work on chemical reactions in muscle cells. He was Biological Secretary (1935-1945) and Foreign Secretary (1945-46) of the RS. Hill was a member of the Air Ministry's 'Tizard' Committee, who developed radar in the build-up to WWII, and in 1939 he prepared the Central Register of Scientific and Technical Personnel with Egerton for the Ministry of Labour. Amongst other wartime roles (see p119), in 1940 he was engaged in the 'Tizard mission' to Washington to share technical secrets with the USA and precipitate Commonwealth co-operation in wartime problems (discussed further in chapter 2). In 1943-44 he spent time in India as a representative of the RS, advising their government on scientific issues and aspects of post-war reconstruction. During the Interwar and WWII period he was closely involved with the Academic Assistance Council, later the Society for the Protection of Science and Learning, who provided support for refugee and dissident scientists (many from Germany). He later became its Chairman in 1946 and President in 1963. In 1952-56 he was Secretary-General of the International Council of Scientific Unions. Katz B. (1978): "Archibald Vivian Hill. 26 September 1886-3 June 1977", *Biographical Memoirs of Fellows of the Royal Society* **24**, 87-88, 92, 106-107, 109-110, 113, 117-121, 128.

wing affair. However, William McGucken describes him as a "moderate", whilst Gary Werskey implies that he was a Conservative.[35] Recently, in his *Britain's War Machine*, David Edgerton has added weight to this idea.[36] Indeed, Hill was a Member of Parliament as an 'Independent Conservative' for Cambridge University from 1940-1945.[37] Dale is remembered by colleagues and biographers as someone who consistently spoke out for the cause of freedom and internationalism in science, seemingly driven by the desire to separate science from politics. This stance was presented by Dale himself, and by his biographers, as apolitical.[38] McGucken tacitly endorses this view and presents him as a political 'middle man'.[39] Greta Jones, however, points to Dale's eventual membership of the SFS and his affinity to its objectives in the Lysenko affair.[40]

### 1.3.2 The middle ground?

The Royal Society kept a low (corporate) profile in relation to the freedom and planning debate. In contrast, much of its fellowship were actively engaged; sixty-four Fellows and Foreign Members of the Society were members of the SFS by

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[35] Jones G. (1979): "British scientists, Lysenko and the Cold War", *Economy and Society* **8**, 26; McGucken (1978), 63-4; Werskey (1988), 222.

[36] Edgerton describes Hill as *not* a man of the left, and illuminates the fact that in 1943 he became a founding member of the Tory Reform Committee. Edgerton (2011), 136, 148.
Hill is a good example of a Fellow 'wearing many hats'. David Edgerton discusses how, in this period, as well as being Biological Secretary of the Royal Society and an MP, Hill was also a member of the Scientific Advisory Committees to the War Cabinet and the Ministry of Supply. In 1942, when Hill the MP was criticising the Government's use of science (or lack of), Hill as an Officer of the RS was lobbying the Government to make better use of elite scientists. Indeed, Edgerton claims that, whilst Hill was "very much an establishment [*sic*] figure, an insider in the pre-war and wartime military-scientific complex", he was also an outspoken critic of the Churchill Government's wartime military strategy. Edgerton (2011), 132, 134-137, 139, 148.

[37] Katz (1978), 116-117, 140-41.
A tradition begun in the early 17th Century allowed Universities to be represented by an independent candidate. This was abolished by Attlee's Labour Government in 1951. In 1939, before the outbreak of war, Hill was invited to be the candidate for Cambridge, but declined on account that it was not compatible with his RS professorship appointment. After the outbreak of war, he was approached again, this time by the Cambridge University Conservative Association, and he accepted, on the understanding that he would describe himself as an 'Independent Conservative'. Hill said that he changed his mind because the onset of war had curtailed his research work and he would like to be useful in Parliament.

[38] Anon. (1968): "Sir Henry Dale", *British Medical Journal* **3** (5613), 261-262; Feldberg (1970), 148-152; Gasser H. S. (1955): "Sir Henry Dale: His Influence on Science", *British Medical Journal* **1** (4926), 1359-1361; Loewi O. (1955): "Salute To Henry Hallett Dale", *British Medical Journal* **1** (4926), 1356-1357; Paton W. D. M. (1976): "Sir Henry Dale (1875-1968). Some Letters and Papers", *Notes and Records of the Royal Society of London* **30** (2), 238-9; Tansey E. M. (1995b): "What's in a Name? Henry Dale and Adrenaline, 1906", *Medical History* **39**, 459-476.

[39] McGucken (1978), 65-66; McGucken (1984), 287-289, 294.

[40] Jones (1979), 37, 46, 51, 53.

1946.[41] On the other hand, the Society were urged by Fellows Blackett and Ralph Fowler in 1943 to plan for the post-war needs of British science, in order to ensure progress in the fundamental sciences. This they did, establishing eight sectional committees to study the resources needed for the future development of the major disciplines.[42] This, Werskey argues, was a sign of their acceptance of the scientific Left; such an action pre-war could have been considered "dangerously radical".[43]

This image of the Royal Society as being stuck in the middle of a divided fellowship, is reflected in William McGucken's presentation of Dale and Hill as 'middle men' in the debate. For instance, he draws attention to Dale's presidential speech to the Royal Society in 1941 in which he warned of the dangers of too close an association between science and government on the one hand, yet on the other he referred to the welcome development of state-sponsored research in Britain since 1914.[44]

McGucken claims that the wartime President (Dale) and two Secretaries (Hill and Alfred Egerton as Physical Secretary 1938-48) of the Society had refused to join the SFS in 1941 because they did not consider the freedom of science to be under threat, and accepted that a certain amount of scientific planning was inevitable and good.[45] Although McGucken acknowledges that Dale and Hill both cited their

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[41] McGucken (1984), 273.
[42] RS Council Minutes vol 16 (1940-45) 14/12/1944 pp334-360 Appendix A: "Report on the needs of research in the fundamental sciences after the war"; Rowlinson J. S. (1992): "The Development of the Society, 1940-1989", in Rowlinson J. S., Robinson, N. H. (eds) *The record of the Royal Society of London: supplement to the fourth edition for the years 1940-1989* (Great Britain: Royal Society), 5.
[43] Werskey (1988), 273.
[44] McGucken (1984), 294.
[45] McGucken (1978), 65.
**Alfred Egerton** (FRS 1925) was primarily a chemist, based at Oxford. During WWI he worked predominantly on explosives at the Ministry of Munitions. He served on the RS Council 1931-33. During WWII his Department "acted effectively as a focal point for much important government work". He was also a member of the War Cabinet Scientific Advisory Committee and Chairman of the Fuel and Propulsion Committee of the Admiralty. In summer 1942 he was sent to the USA to re-organise the British Central Scientific Office (BCSO) and improve British liaison with Washington (more on the BCSO in chapter 2). As Chairman of the Scientific Advisory Council of the Ministry of Fuel and Power 1948-53, he reportedly made his influence felt at policy-making levels. As Physical Secretary he devoted much time to organising the Scientific Information Conference in 1948 (more on this later in the chapter). Upon retirement from the RS in 1948, he wrote to A.V. Hill: "I feel very contented that the Society is in such good fettle and one of the mainstays of freedom". Newitt D. M. (1960): "Alfred Charles Glyn Egerton. 1886-1959", *Biographical Memoirs of Fellows of the Royal Society* **6**, 43, 46- 50, 52; Egerton was Chancellor of the Exchequer (Attlee's Government), Stafford Cripps's brother-in-law. Jeff Hughes argues that this connection gave the Society privileged access to government circles and government thinking. Hughes J. (2008): "The Royal Society and the New Jerusalem", Paper for the BSHS-HSS-CSHPS Three Societies Meeting, 4-6 July 2008.

positions in the Royal Society as part of their reasons for not joining the SFS in 1941, he places little emphasis on this as an explanatory factor.[46] Both individuals expressed their sympathy with the aims and founders of the SFS explicitly in private, and implicitly in public during their terms in office. Their reason for refusal was primarily because they felt that membership of a partisan organisation was incompatible with the corporate (independent) image of the Royal Society.

In 1947, Dale's sympathies with the objectives of the SFS were demonstrated when he became a member and Vice-President after his term ended as PRS. This is something that is completely omitted from his (97 page) biographical memoir by Wilhelm Feldberg FRS.[47] McGucken argues that Dale joined after the war because national opinion had turned against communism. Although this may have been a factor, Dale's personal correspondence and public addresses show that it was primarily due to his political liberation after a period of self-imposed 'neutrality' as President of the Royal Society (PRS).[48] His post-war political activities add weight to Dale as a man of the Right, or at least a man leaning increasingly and publicly in that direction.

### 1.3.3 Neutrality and liberal rhetoric

In 1941 Dale, Hill and Egerton exchanged correspondence on the SFS. Both Dale and Hill pointed out the paradox of the SFS claiming to be apolitical, yet being in a partisan position.[49] Despite this, Dale and Hill talked openly about the desirability of 'freedom in science' during this period, with the assumption that to

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[46] McGucken (1984), 288-289.

[47] Feldberg W. S. (1970): "Henry Hallett Dale, 1875-1968", *Biographical Memoirs of Fellows of the Royal Society* **16**, 77-174.

[48] McGucken (1978), 65-66.
However, Dale did not join *immediately* after the end of his presidency, which does lend some weight to McGucken's argument that Dale joined due to a change in national sentiment. However, most of the evidence leans against such a radical change of opinion. If Dale was a recent convert, would Baker really have spoken to him so openly about Bernal and communists in the post-war period? More significantly, the nature of the language that Dale uses in his correspondence with Baker is so unguarded – "infection spreading" (about communism), "disgustingly disingenuous" (about Bernal), and in a public speech - "so poisonous a doctrine" (about Bernalism), "the insidious infiltration of Marxist ideas" – that it is unlikely to have developed overnight. Furthermore, the evidence of Dale's anti-planning sentiment is quite consistent and is evident even during Dale's presidency in his presidential addresses. It is quite likely though that the turn in opinion against communism made Dale feel more *able* to join in (December) 1947. RS Dale [HD/14/36]: items 61, 53, and 74 (p5 and p8) respectively.

[49] RS Dale [HD/14/36]: item 6, Dale to Tansley 01/08/1941; item 5, Hill to Tansley, 06/06/1941.

advocate freedom from politics was to be apolitical. But, just as 'planning' became associated with left-wing ideology and central organisation, so 'freedom' was a buzzword for liberal ideology and so cannot be thought of simply as 'neutral'; 'freedom from politics' implied 'freedom from state intervention'. Indeed, Dale and Hill's public statements on scientific organisation during this period can be thought of as liberal rhetoric. The affinity of the SFS's discourse to other liberal organisations that Dale was later interested in, or involved with, such as the *Fellowship for Freedom in Medicine*, and the *Society for Individual Freedom*, demonstrates this point.

Dale's liberal rhetoric was particularly evident in his anniversary presidential addresses to the Royal Society. The addresses stressed, in particular: (i) the importance of returning to 'normal' scientific practice in peacetime, with freedom from state control, rationalised planning and the bounds of secrecy and national borders; (ii) the long history of the Society's aloofness from political ideology and its special role in promoting and protecting pure science and the pursuit of knowledge for its own sake. For example, in his 1941 address, he said:

> This Society, with its firm and unbroken tradition of complete aloofness from political controversy, may still find it an important part of its function, to keep watch and, if necessary, to stand without compromise, for the right and the duty of science to seek the truth for its own sake, in complete freedom from any kind of extraneous influence. I hope, indeed, that there will never be need thus to invoke our tradition, in order to protect the freedom and integrity of science from the enthusiasm and the advocacy of any of its friends.[50]

Referring to a recent conference organised by the BAAS on 'Science and the World Order', Dale commented that:

> Many who took part in these meetings, held at a time when Science finds itself conscript and organised as never before for the destructive

[50] Dale H. H. (1942): "Address of the President Sir Henry Dale, C.B.E., at the Anniversary Meeting, 1 December 1941", *Proceedings of the Royal Society of London B* **130**, 248-49.

> purposes of war, were clearly ready to support the view that it should be as fully organised by the governments of a world at peace.[51]

However, he said, there were a few voices, "such as that of our Biological Secretary [A.V. Hill]", who sounded a warning of the dangers that might accompany such an association between science and government. Dale continued that scientific progress was more naturally allied with free rather than planned scientific inquiry:

> Freedom and opportunity, it was pointed out [by Hill], rather than organisation, provide the conditions for the highest types of research, and thus, in the end, for the greatest services which science can give to mankind. I find myself in sympathy with this view, and nobody here, I think, would suggest that it is usually possible to organise the researches which advance boldly into the unknown, and open new vistas to human understanding.[52]

In many of his wartime addresses, Dale made reference to the necessary mobilisation of science for the purpose of the war, laying particular emphasis on the temporary and abnormal nature of such activity.[53] Whilst welcoming an anticipated expansion of the nation's support of applied science in peacetime, Dale commented in his 1943 address, that "[...] it is to-day a primary duty and mission of the Royal Society [...] to aid and to encourage researches which seek the advancement of knowledge without immediate reference to its use [...]".[54]

Through these addresses, without being explicitly partisan, Dale made it clear to his audiences what he believed the proper function of scientific inquiry and of the Society should be in peacetime. His desire to appear non-partisan owed partly to the fact that his imagined audience went beyond the reaches of the Society and the British scientific community. Dale acknowledged privately to Tansley in 1941 that

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[51] Dale (1942), 246-247, quote on p247.
[52] Dale (1942), 247. See also Werskey's account of this conference: Werskey (1988), 270-271.
[53] For example, see Dale (1942), 245-247; Dale H. H. (1945): "Address of the President Sir Henry Dale, O.M., G.B.E., at the Anniversary Meeting, 30 November 1944", *Proceedings of the Royal Society of London B* **132**, 340-41; Dale H. H. (1946a): "Address of the President Sir Henry Dale, O.M., G.B.E., at the Anniversary Meeting, 30 November 1945", *Proceedings of the Royal Society of London B* **133**, 132-133, 135-138.
[54] Dale H. H. (1944b): "Address of the President Sir Henry Dale, G.B.E., at the Anniversary Meeting, 30 November 1943", *Proceedings of the Royal Society of London B* **132**, 18-19, quote on p19.

one of the reasons he could not join the SFS was that it would send an inconsistent message to colleagues in the Soviet Union. Indeed, Dale was in a difficult position with the USSR as an ally in the war, as he could not be seen to openly criticise its scientific organisation.[55] In 1941 the Council had requested the Society's Officers to send a fraternal message of sympathy to the Academy of Sciences in Moscow. Dale told Tansley that he had found it embarrassing but the Soviets had been very pleased by it. Whilst he had the "fullest theoretical sympathy" with the aims of the SFS, he thought it would appear too inconsistent if he were to join a society which suggested that freedom of science was imperilled in the USSR.[56] In fact, in his 1943 address, he praised them for their rapid industrialisation since the Russian revolution and even implied that they provided a good model for Britain.[57]

Hill expressed similar sentiments about neutrality to Tansley in 1941, and acknowledged its utility in co-opting the left-wing members of Council:

> There is another reason why I personally feel that I ought not to join the new Society [the SFS], namely, desire not to compromise the Royal Society. The Royal Society must not be associated with any particular brand of politics or it will lose its influence and position. If its Officers were to join in a movement designed to oppose the application of certain political ideas, whether of the right or left, sectional divisions and differences would be bound to occur within it, instead of the very pleasant harmony which at present exists. Remember that Haldane and Blackett, for all their queer political notions, are useful and co-operative members of Council: I am sure that Bernal and Hogben will be the same when their turn comes to serve, for they have always been most helpful whenever we have called for their advice on scientific matters. We can keep them in order better by co-operating with them in scientific affairs than by formally setting up to oppose their political ideas in the name of science.[58]

[55] RS Dale [HD/14/36]: item 6, Dale to Tansley, 01/08/1941.
[56] RS Dale [HD/14/36]: item 6, Dale to Tansley, 01/08/1941.
[57] Dale (1944b), 18-19.
[58] RS Dale [HD/14/36]: item 5, Hill to Tansley (forwarded to Dale), 06/06/1941.

Tansley had realised that Hill would probably be restricted by his official position, "however strongly [he] might sympathise". He continued, "I very much hope that you and those who share your position will be able to blunt the teeth of our distinguished Marxian friends when they try to apply their political faith to organising work in science. It is not impossible that you may."[59]

Dale's letter to Baker in December 1947, outlining his reasons for not joining the SFS in 1941, is quoted at length below to demonstrate his attitude towards neutrality and the ways in which he felt it had been useful for him to adopt this attitude during his Presidency:

> When the Society [SFS] was founded early in the war, I felt obliged to decline the invitation to join, on account of my official position. I was about to become, or was already, President of the Royal Society at the time, and, much as my sympathy went with the aims of your Society, I felt it a duty to keep an official attitude of neutrality, at a time when it was impossible to see how things were going to develop, and in what kind of public controversy your Society might perhaps find itself involved. I think that my decision, on the whole, was the right one. I found myself a little later, not only President of the Royal Society, but official Chairman of the Scientific Advisory Committee to the War Cabinet. Nothing, in fact, occurred which could have made open membership of your Society embarrassing, but I felt that, if any influence were required to safeguard the position of scientists, I could exercise it better if I were not openly associated with a Society which might have been represented as favouring one side of a controversial policy. Your renewed approach to me suggests that any public advocacy that I have thought it proper to use has been recognised as sympathetic to the general aims of your Society. I feel convinced that the existence and activities of the SFS are at least as important now as

[59] RS Hill [MDA/A/28/25]: Tansley to Hill, 07/06/1941.

> they were at the time of its formation, and I am glad to feel at liberty to join, and give what help I can.[60]

It is possible that Dale's retrospective was exaggerated, due to a perceived need to explain his delayed membership of the SFS. However, it is evident in Dale's presidential addresses to the Royal Society that he used the platform to convey a message to its audience that was mostly consistent with the ideology of the SFS.[61]

### 1.3.4 Dale's post-war agenda

In Dale's post-war lectures and addresses, he continued to state his beliefs in a liberal scientific epistemology, pointing out the prevalence of accident, opportunism and serendipity in medical and scientific research – i.e. that you cannot plan for innovation.[62] Dale shared the medical profession's critical attitude towards the NHS, which he saw as being *imposed* on society by the state.

In a lecture given in June 1951 in connection with the Festival of Britain, entitled 'Medicine, yesterday and tomorrow', Dale said:

> I cannot be unaware of the many personal and professional difficulties and hardships entailed by a rapid adjustment to the new structure of medical practice which State action has now created and imposed.[63]

In January 1949, in a lecture to the Royal Medical Society, entitled 'Medical research as an aim in life', Dale said:

> We shall probably not all hold exactly the same opinion about the future of medical practice, and the effects on its value to the community of the new conditions which the National Health Act

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[60] RS Dale [HD/14/36]: item 14, Dale to Baker, 03/12/1947; This is also echoed in [HD/14/36] item 73 "draft speech for SFS 10 year anniversary meeting", scheduled for 04/09/1950 – See APPENDIX A.

[61] It is also noted by his biographer that he used his presidential addresses to convey the importance of freedom in science. Feldberg (1970), 148-151.

[62] Dale H. H. (1949): "Medical Research as an Aim in Life: A Lecture delivered to the Royal Medical Society, Edinburgh, 21st January, 1949"; Dale H. H. (1948b): "Accident and Opportunism in Medical Research: Being the Popular Lecture delivered on 2nd July at the Annual Meeting of the British Medical Association, Cambridge" both in: Dale H. H. (1954): *An Autumn Gleaning: Occasional Lectures and Addresses* (London: Pergamon Press), on pp128-142, 114-127 respectively.

[63] Dale H. H. (1951): "Medicine, Yesterday and To-morrow: Lecture in connection with the Festival programme organized jointly by the British Medical Association and the Royal Society of Medicine, delivered on 20th June, 1951, in the Great Hall, B.M.A. House" in: Dale (1954), 198.

> imposes. I think we can all agree, however, that no pressure of form-filling, certificate writing and report-making which a centralized administration may involve, must be allowed to weaken the personal, professional and scientific standards of the practitioner. […] We ought all of us, as a profession, to insist on the right to keep that flag flying, to let it be known that we have no use for changes which do not help us to regard medical research more clearly as an aim [...].[64]

Dale's papers also demonstrate an interest in collecting the literature of the *Fellowship for Freedom in Medicine* (FFM), the aim of which was the preservation of private medical practice in the face of the NHS. It was aligned with the Conservative Party, and fought for the independence of doctors, prevention of state monopoly and maintenance of a competitive standard. The FFM made a very similar argument to that made for freedom of science, that reduction in competition would lead to a reduction in quality, therefore favouring the principles of capitalism.[65]

Dale also became a member and Vice-President of a similar organisation, the *Society for Individual Freedom* (SIF), in December 1955.[66] In some respects, SIF's ideology was very similar to that of the SFS. It claimed that whilst 'planning' suggested good things, in reality it only meant the destruction of all human freedom. An article in SIF's journal, *Individualism*, in April 1950 claimed that "wherever the state-planned economy has been tried, liberty has perished!"[67] Indeed, the SFS and SIF had very similar objectives, although SIF went one step further in that it was more overtly political; it was campaigning to "discourage the growth of bureaucracy and encourage private enterprise and initiative".[68] In an address at the SIF AGM in 1958, Conservative politician Victor Montagu (later

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[64] Dale (1949): "Medical Research as an Aim in Life" in: Dale (1954), 142.
[65] RS Dale [HD/14/17] 'Fellowship for Freedom in Medicine, 1948-1956': especially item 4 "The Preservation of Private Practice".
[66] RS Dale [HD/16/29] 'Society for Individual Freedom, 1955-1965': item 3, John Murray to Dale, 01/12/1955; item 6, Dale to Murray, 02/12/1955.
He remained Vice President until at least 1965. In 1965 SIF encouraged him to extend his Vice-Presidency and he agreed on the grounds that it would be a ceremonial rather than an active one (Dale died in 1968). RS Dale [HD/16/29]: item 31, SIF to Dale, 28/07/1965.
[67] RS Dale [HD/16/29]: item 5, Winder G. (April 1950): "All Dictators at Heart" in: *Individualism: Journal of the Society for Individual Freedom Incorporating the Society of Individualists and National League for Freedom*, p8.
[68] RS Dale [HD/16/29]: item 1, SIF ("E.G.") to Dale, 11/1955.

Lord Hinchingbrooke[69]) said: "Individual freedom is very easily undermined, and has been undermined, by a cohort of Socialists marching to the Left".[70]

Indeed, unlike the SFS, SIF made no pretence of being neutral; it was overtly pro-Conservative, pro-Liberal, and anti-Labour (and needless to say anti-communist). At the SIF AGM, Dale was invited to listen to speeches given by Liberal and Conservative Lords at the House of Commons and to stay for a cocktail party.[71] It is not clear whether he actually attended but this is an indication of the sort of political networks he was associating with in the 1950s.[72]

Although in 1941 Dale had defended Bernal to Tansley and Baker, saying that he and his associates were "equally committed to help this country in its present conflict", Dale's correspondence with Baker after joining the SFS in 1947 showed a marked change in tone.[73] Dale and Baker often vented frustrations about Bernal and communists in general. For example, Dale alerted Baker to Bernal's "disgustingly disingenuous" letter in the *Manchester Guardian* in 1949, and later commented that it was "a dangerous tolerance for so poisonous a doctrine […] that led to the foundation of [the SFS]".[74] In January 1950, Baker wrote to the SFS Executive Committee of communist influences in French science: "among biologists", he reported, "[there was] an almost universal swallowing of the Lysenko doctrine".[75] Dale replied that he was sorry to hear of the problem: "It has long been known, of course, that certain leading figures in atomic physics in France, were openly professedly Communist, but I did not know that the infection had spread to the biologists."[76]

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[69] Montagu became Lord Hinchingbrooke in 1962 and denounced the title in 1964. Morgan J. (ed) (1981): *The Backbench Diaries of Richard Crossman* (USA: Hamish Hamilton and Jonathan Cape), 171.

[70] RS Dale [HD/16/29]: item 37, Montagu/Lord Hinchingbrooke's Addresss to SIF, 08/12/1958.

[71] RS Dale [HD/16/29]: item 11, Lillian Sutton to Dale, 04/12/1956.

[72] Dale was also a sponsor of the Committee on Science and Freedom, of which Polanyi was Chairman, from at least Jan 1955- Nov 1956 (it was also sponsored by the Congress for Cultural Freedom). OX Peierls [MS.Eng.Misc.b.212] 'Correspondence – Polanyi': George Polanyi to Peierls, 03/01/1955; 14/11/1956.

[73] RS Dale [HD/14/36]: item 6, Dale to Tansley, 01/08/1941.

[74] RS Dale [HD/14/36]: item 53, Dale to Baker, 31/10/1949; items 73, 74, Dale's draft and final draft speech for SFS 10 year Anniversary meeting, scheduled for 04/09/1950, p5.

[75] RS Dale [HD/14/36]: item 60, Baker to Executive Committee, SFS, 12/01/1950.

[76] RS Dale [HD/14/36]: item 61, Dale to Baker, 13/01/1950; For further examples of anti-Bernal and anti-Bernalist/ anti-communist sentiment, see: RS Dale [HD/14/36]: item 29, Dale to Baker, 25/03/1948; item 53, Dale to Baker, 31/10/1949); items 73, 74, Dale's draft and final draft speech for SFS 10 year Anniversary meeting, scheduled for 04/09/1950; item 38, Baker to Dale, 01/11/1949; item 39, Baker to SFS Committee, 01/11/1949.

Dale also vented his frustrations about communists being employed as University staff or civil servants. He felt that communists working on national and military projects might be tempted to break their code of secrecy and therefore could not be trusted. In his speech at the SFS 10th Anniversary Dinner in 1950, which was also published as an SFS pamphlet, Dale repudiated recent claims from communists about violations of their academic freedom (i.e. their right to uphold communist beliefs and still enjoy tenure of office), arguing that they were not justified because communism was at odds with intellectual freedom and had tried to destroy it. Fanatical Marxists, he said, had refused to condemn the persecution of scientists in Soviet Russia, so they had no right to respond with horror when a British communist was dismissed from his post.[77] Dale was irritated that leading Marxists were mobilising arguments in the name of academic freedom, yet he did not condone the dismissal of communists already in British science organisations. However, his strong feelings that they should not be newly appointed were illustrated in another of Dale's medical analogies:

> […] electors would be justified in passing over otherwise brilliant claims, if the candidate in question were known to be suffering from, say, phthisis in an infective stage, whereas the misfortune of its subsequent acquisition would not justify the dismissal of a man already in office.[78]

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Dale was most likely referring to Joliot-Curie. At this time, Edward Hindle FRS was attempting to influence political opinion in France by publicising the SFS to informal contacts in Paris, hoping to counteract the prominent (left-wing) activities of the "Joliot-Curie and Teissier crowd". An informal network developed at this time that connected FRSs Hindle, George Thomson, Gavin de Beer, Tansley, Dale, soon-to-be FRS J.R. Baker, officials in the Information Research Department at the Foreign Office (Ralph Murray, MacLaren and John Peck), and Dr. C.S. Piggot (Scientific Counsellor, American Embassy). This network was fostered on the basis of a learned anti-Soviet ideological consensus. More on this in section 2.3.1. GL Hindle [DC75/D.2] 'Correspondence with J.R. Baker concerning Society for Freedom in Science, 1950-1951'.

[77] The issue of Marxists refusing to condemn the persecution of scientists in the Soviet Union was a recurrent theme and bone of contention between the two camps. Polanyi expressed this to Rosenfeld, and Powell in: OX Coulson [MS COULSON 96/ C.33.6] 'Correspondence – Polanyi': Polanyi to L. Rosenfeld, 07/02/1952; Polanyi to C. F. Powell, 24/11/1950. The latter and Coulson to Polanyi, 14/12/1950 both express anti-communist sentiments.

[78] RS Dale [HD/14/36] item 74: draft speech for SFS 10 year Anniversary meeting, scheduled for 04/09/1950, pp10-12, quote on p11.

## 1.4 History in the Making

*"Who controls the past controls the future; who controls the present controls the past."*

*George Orwell, 1984 (1949)*[79]

During the lifetime of the freedom and planning debate, approximately 1931-1948, the Royal Society featured as a contested emblem. Several accounts of the Society's history, both published and in lectures and addresses, were written or reviewed by key players in the debate. The key discrepancy in these narratives was over the intentions of its founders. The debate was fuelled by a common belief that the key to resolving this contemporary conflict was to find a 17th Century prescription, some kind of static truth or enshrinement of the founders' philosophy, that would unambiguously state that the Royal Society, and therefore modern science itself, was founded upon the principles of liberal tradition or utopian progress; science for science's sake, or science for the state.

On the use of history, Bernal wrote in *Social Function of Science* (1939): "The key to the future of science lies in its past, and it is only after examining it, however cursorily, that we can begin to determine what is and what may become the social function of science".[80] In his Pilgrim Trust Lecture of 1946, Dale said:

> Like Professor Hill and others, I have been considering whether there might be some simpler and more inclusive profession of the scientific faith – of the principles of conduct by which we could agree to be guided, and which every scientist in the world, whatever his national loyalty or political creed, could properly be asked to accept. Let us

[79] Orwell G. (1949): "1984", in Davison P. (ed) (2008): *George Orwell: 1984* (London: Penguin Books Ltd.), 260.

[80] Bernal (1939), 11-12. A fundamental contradiction in Bernal's *Social Function of Science* is his advocacy of the Marxist idea that social consciousness is contingent on existing social order, which contradicts the idea of a static truth lying preserved in the past. But also see Werskey (1988) who argues that "While [Bernal] insinuates [science] deeply into the cultural and productive systems of humankind, he simultaneously removes science from any particular historical context". However, Werskey acknowledges his usage is confusing and seems to fluctuate between the two interpretations. Werskey (1988), 188.

> first see whether our forerunners […] made for themselves any rules which might help us.[81]

Despite being in agreement over the use of the Society's history to provide guidance, Bernal, Dale and others who engaged in this debate, proffered conflicting interpretations of the founders' intentions. They were attempting to provide an account of the Society that was consistent with their political philosophies. This, I believe, is the significance of Orwell's quote; it is about the re-interpretation of history and its use in contemporary power struggles.

### 1.4.1 Science for welfare?

The ideas of Francis Bacon were supposedly a great influence on the founders of the Royal Society, both in terms of the 'experimental philosophy' and as a model for scientific organisation. In *The Advancement of Learning* (1605) Bacon surveyed the whole body of human knowledge in order to highlight its limitations. In *Sylva Sylvarum* (1627) he outlined a thousand experiments that needed to be done, whilst *New Atlantis* (1627) depicted an ideal community in which all had been accomplished.[82] Joseph Glanvill, in an address to the Royal Society in 1665, attested to the fact that "*Solomon's House* in the NEW ATLANTIS, was a Prophetick Scheam of the ROYAL SOCIETY". Bacon also appeared on the frontispiece of Thomas Sprat's *History of the Royal Society* in 1667.[83]

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[81] Dale H. H. (1946b): "The Freedom of Science: Pilgrim Trust Lecture, read 22nd October, 1946, in Philadelphia before the National Academy of Sciences" in: Dale (1954), 74.

[82] Johnston A. (ed.) (1974): *Francis Bacon: The Advancement of Learning and New Atlantis* (Oxford: Clarendon Press), x-xvii, xxii. Bacon died in 1626; *Sylva Sylvarum* and *New Atlantis* were published posthumously by his chaplain William Rawley.

[83] However, it has been a matter for debate whether Bacon's philosophy was of central importance in practice. Dear P. (1985): "Totius in verba: Rhetoric and Authority in the Early Royal Society", *Isis* **76** (2), 147. The Baconian nature of the early RS is particularly challenged by Charles Webster who argues that appealing to Baconianism was simply the easiest way for Sprat to undermine contemporary criticisms of the RS (by White, Hobbes and Stubbe for example). Sprat was sympathetic to this view which is why he was chosen to write it. Webster C. (1967): "The Origins of the Royal Society," *History of Science* **6**, 114-115 [Review of Margery Purver, *The Royal Society: Concept and Creation*]. Furthermore, Webster claims that the debate also depends on whether one believes that the RS was drawn from the Oxford group, Gresham College (London group), or the Hartlib group. For example, Margery Purver claims that the Oxford group were the only true prototype of the RS (as did Sprat), and therefore stresses Sprat's history as the definitive account of their early philosophy as being Baconian. Webster (1967), 107-8; Purver M. (1967): *The Royal Society: Concept and Creation* (London: Routledge and Kegan Paul Ltd) referenced in Webster (1967). Full Purver reference cited in Martin T. (1967): "Origin of the Royal Society", *Nature* **215**, 327.

The *New Atlantis*, Bacon's utopian vision, depicted the remote island community of Bensalem, whose principal state institution was Salomon's House: "[an] Order or Society […] dedicated to the study of the Works and Creatures of God".[84] Bensalem boasted elaborate state facilities for natural philosophy, and its inhabitants and visitors were provided with means to live from the state, the implication being that the highly planned and efficient application of natural philosophy to human welfare had showered beneficent gifts upon the community. To Bacon, Bensalem was a "picture of our salvation in heaven".[85]

Bernal's *Social Function of Science* (1939) was clearly influenced by Bacon. Indeed, there is a clear parallel to be drawn between Bacon's *Advancement of Learning* and Bernal's treatise, which was organised into two main sections: 'what science does' and 'what science could do better under central organisation'. Bernal also nodded to *Sylva Sylvarum* when he proposed that the first stage of planning for scientific advance was to make a "survey of existing knowledge and techniques in all departments of human life". He was clear that this was not a new idea, but one adopted by the founders of the Royal Society.[86]

[84] Bacon F. (first printed 1627): "New Atlantis" in: Johnston (1974), 229.
[85] Ibid. 221.
[86] Bernal (1939), 330.


*Image 2: Bacon appears on the right in the frontispiece of Thomas Sprat's 'History of the Royal Society' (1667).* ©The Royal Society

Bernal, Haldane and Crowther all used Bacon's work to 'demonstrate' that the early Royal Society was founded upon principles that were compatible with a planned economy. Bernal and Crowther utilised historical precedent to propose a new role (or in their view a reformed role) for the Royal Society after the war. Bernal argued in 1939 that the Royal Society had "carried with [it] from the start the intensely practical intentions of the *New Atlantis*".[87] In support of this, he quoted the draft constitution of the Society drawn up by Christopher Wren (around 1662):

> Wherefore our Reason hath suggested to us, and our own Experience in our Travels in foreign Kingdoms and States, hath abundantly

[87] Ibid. 21.

> confirmed, that we prosecute effectually the Advancement of Natural Experimental Philosophy, especially those Parts of it which concern the Encrease of Commerce, by the Addition of useful Inventions tending to the Ease, Profit or Health of our Subjects; which will best be accomplished by a Company of Ingenious and Learned Persons, well qualified for this sort of Knowledge, to make it their principal Care and Study, and to be constituted a regular Society for this purpose, endowed with all proper Privileges and Immunities.[88]

Bernal argued that "the ideal of Bacon, the use of science for the welfare of human beings, was indeed a guiding principle of the constructive side of Marxism".[89] Haldane made similar claims for the affinity of Marxism with Early Modern science. In a letter to *Nature* in 1941, he made his point by quoting the words of Robert Boyle in 1646 who wrote that he was studying natural philosophy "according to the principles of our new philosophical college, that values no knowledge, but as it hath a tendency to use". Furthermore, Haldane argued that Sprat "went even farther towards the theory held in the Soviet Union, in postulating a class basis for science". Sprat, he claimed, argued that esoteric natural philosophy was not being usefully applied to assist mechanics and artificers in their work. This, Haldane concluded, showed that "Soviet practice and theory […] are in the great tradition of British science".[90]

Noticing the trend to appeal to Bacon and the founders of the Royal Society, Baker responded in his 1942 book *The Scientific Life*, stating that the 'planners' take Bacon as their hero, yet he is a poor idol who was power-hungry, fickle, corrupt, and a bad scientist.[91] Dale had a different approach to the uses of history. In his 1946 lecture, he said:

> Have we been astray, in regarding it as the first duty of science to seek the truth for its own sake, in holding the advancement of natural knowledge to be good in itself, independently of any value which its uses may have for the betterment of the conditions of man's life?

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[88] Ibid. 21-22.
[89] Ibid. 32-33.
[90] Haldane (15 Nov 1941): "Science in the U.S.S.R." *Nature* **148**, 598 (Letters); Anon. (15 Nov 1941): "Science in the U.S.S.R." *Nature* **148**, 598 (Letters).
[91] Baker J. R. (1942): *The Scientific Life* (London: George Allen & Unwin Ltd), 52-53.

> Some would tell us to-day, indeed, that science has no right to such aloofness; that it is itself but a product and expression of the social progress of mankind, and can find its only proper aim and sanction in relation to social needs. They tell us even that this view was already held by such pioneers of our modern science as those who planned and brought about the foundation of the Royal Society, and that we have been at fault in departing from their precepts.
>
> It is true that Francis Bacon advocated researches "useful for man's life" as well as "for knowledge", but it was he also who wrote that "men are inclined to turn aside from their experiments for some practical application of them; like Atlanta they go aside to pick up the golden apple and let victory escape them; they shall seek for experiments of light, not for experiments of fruit".[92]

Here we see Dale again firmly allied with the liberals' point of view. Indeed, in the strand of the debate that was centred on the Royal Society's history, he appears to have been the most prominent spokesperson for their point of view. He answered Haldane's point about Boyle in his Pilgrim Trust Lecture in 1946:

> As for Robert Boyle, with his description of "our new philosophical college, that values no knowledge, but as it hath a tendency to use", you would look in vain in his practice and that of his associates among the Royal Society's early Fellows, for any clear effect of such a principle.[93]

### 1.4.2 "Politics in science is the devil!" (Tansley, 1941)[94]

That science should remain aloof from politics was a key aspect of the liberals' doctrine, as a prerequisite to reinstating or maintaining scientists' freedom from state imperatives.[95] This stance was adopted by Dale in relation to international

[92] Dale (1946b): "The Freedom of Science" in: Dale (1954), 72.
[93] Ibid. 72-73.
[94] RS Dale [HD/14/36]: item 1, Tansley to Dale, 27/05/1941.
[95] The paradox of this position has already been pointed out and was (at least initially) recognised by Dale and Hill (see footnote 49).

cooperation in science in the early 1940s.[96] Moreover, Dale stated that the Royal Society had a duty to safeguard the ideal, in 1950 arguing that the spirit of scientific freedom was enshrined in the so-called "Advertisement" which had appeared at the beginning of each volume of *Philosophical Transactions* since 1752:

> It is likewise necessary on this occasion to remark, that it is an established rule of the Society, to which they will always adhere, never to give their opinion, as a Body, upon any subject, either of Nature or Art, that comes before them.[97]

Indeed, Hill had written to *Nature* as early as December 1933, that "[The] rules could not be better summarized than they were 270 years ago by Robert Hooke":

> The business and design of the Royal Society is – To improve the knowledge of naturall things, and all Useful Arts, Manufactures, Mechanick practises, Engynes and Inventions by Experiments –(not meddling with Divinity, Metaphysics, Moralls, Politicks, Grammar, Rhetorick or Lodgick).[98]

Haldane had responded highlighting the juxtaposition of the institutional rules of the Royal Society with the actions of its members as individuals: "I am glad to think that individual fellows of the Royal Society, at any rate, have consistently disregarded these rules". Haldane believed that, unlike scientific societies, scientists as *individuals* had not only the right but sometimes the duty to take a stance on controversial matters. In 1942, Tansley took up the matter again, arguing that, just as the founders of the Royal Society shied away from the political conflict between King and Parliament, so present-day scientists should and could find a sane refuge from politics.[99]

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[96] Dale's attitude to this is expressed in: Dale H. H. (6 Dec 1941): "International Collaboration and Freedom of Science", *Nature* **148** (3762), 680. See also: RS Dale [HD/14/36]: item 73, Draft speech to 10th Anniversary dinner to be given 04/09/1950, pp2-3; item 145, Dale to Baker, 02/12/1952.

[97] RS Dale [HD/14/36]: item 73, Draft speech for SFS 10 year Anniversary meeting, scheduled for 04/09/1950; item 145, Dale to Baker, 02/12/1952.

[98] Hill (23 Dec 1933): "International Status and Obligations of Science", *Nature* **132**, 952 (News); Bernal (1939), 394-5. According to Hill, this was probably drawn up in 1663, after the passing of the Second Charter of the Royal Society.

[99] Haldane (13 Jan 1934): "Science and Politics", *Nature* **133**, 65 (Letters); Tansley (25 Jul 1942): "The Values of Science to Humanity", *Nature* **150** (3795), 109.

A revealing aspect of the freedom and planning debate was the international versus national dimension. Hill and Dale were leading proponents of the argument that science itself was universal by nature and transcended national and political boundaries. As Hill had commented in *Nature* in 1933, science had a unique quality and universal value which meant that "science and learning are superior to and above the State".[100] Yet Hill's calls for internationalism in the context of the 1930s were not apolitical. Rather, he was expressing the view of most scientists and intellectuals in being worried by the growth of nationalism throughout the world and particularly in Europe. In a decade of turmoil, the appeal to old institutions allowed scientists to refer to the *internationale* of science as the "normal condition".[101] However, in *Social Function of Science*, Bernal pointed out that "The idea of National Science is, of course, as old as modern science itself; the Royal Society, the Academie des Sciences, the Prussian and Russian Academies were all founded for the purpose of fostering national talent in science and also quite explicitly for the improvement of national trade and manufactures".[102] In his estimations, with the advent of capitalism, natural science had been distorted in the interests of the ruling class, having been co-opted into militarism and imperialism.[103]

### 1.4.3 Lyons's history

The symbolic position of the Royal Society at the heart of the freedom and planning debate was illustrated particularly well in a dispute over a new history of the Royal Society published in 1944. Henry Lyons's *The Royal Society 1660-1940: A History of its Administration under its Charters* was printed posthumously, with a foreword by Dale. Lyons was a geologist and FRS, and had been Treasurer for the Society from 1929 to 1939, at the same time that Dale was Biological

[100] Hill (1933), 952; Bernal (1939), 394-5.
[101] Quote in: Hill (1933), 952; Salomon J. (1971): "The Internationale of Science", *Social Studies of Science* **1**, 23-42.
[102] Bernal (1939), 152.
[103] Bernal (1939), 27-30, 221; Muddiman D. (2003): "Red information scientist: the information career of J. D. Bernal", *Journal of Documentation* **59** (4), 391.

Secretary. His obituary in *Notices* was written by Dale, indicating that they were well acquainted.[104]

Lyons's history, written in the early years of the war, had an overarching theme which was to show that the founders of the Royal Society had aimed to keep science aloof from political affairs and the agendas of state, and that when this was breached, the Society and science suffered. Lyons argued that, despite the claims in its Charter, the Society soon realised that it could not survive without financial aid, and their solution was to admit wealthy men of distinction from other branches of knowledge: statesmen and diplomats, as well as men with interests in history, literature, art, archaeology, travel and exploration. The non-scientific group increased more rapidly than the Natural Philosophers, until they stifled the scientific activities of the Society. This state of affairs persisted for a century and a half, until the 'revolt' of 1820 purged non-scientific men from the fellowship and the Society passed back into the hands of men of science. Put simply, the Society had to overcome 'extra-scientific' obstacles to meet the aims of its founders and this led to its rise to scientific prominence in the nineteenth century.[105] As Lyons wrote to Dale in June 1941, the object of his analysis had been to establish the proportion of scientists to non-scientists in the Society over the years, in order to illustrate that it excelled in the hands of the former and suffered in the hands of the latter: "I am trying to translate this fact into its historical effect!"[106]

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[104] **Henry Lyons** (FRS 1906), was a geologist. From 1890-1909 he was posted in Egypt, first as an engineer, then as a member of the army, later as a geologist for the Ministry of Public Works, and finally as a Director of the Survey Department for the Egyptian Government. He returned to Britain in 1909 to become a lecturer in Geology at Glasgow, and became Director of the Science Museum from 1911 until the outbreak of war. During WWI he worked at the Meteorological Office, studying weather patterns for the purpose of wartime operations. In the interwar period he returned to his duties as Director of the Science Museum, a position he held until retirement in 1933. In 1928 he became Foreign Secretary of the Society but soon transferred to the post of Treasurer. During his time as an Officer, he became the first Editor of *Notes and Records*. Dale H. H. (1944a): "Henry George Lyons. 1864-1944," *Obituary Notices of Fellows of the Royal Society* **4** (13), 796-97, 800-806.
Jeff Hughes has shown that Dale, as outgoing Secretary of the RS in 1935, wrote to Lyons, celebrating the non-success of the Fellows' 'democratic revolt' against power and privilege being in the hands of a small self-interested elite. Hughes argues that Lyons's history obscured this recent political conflict by presenting the Society's history in a series of broad progressive improvements, thus avoiding questions raised by the revolt. Hughes J. (2010): "Divine Right or Democracy? The Royal Society 'Revolt' of 1935", *Notes and Records of the Royal Society* **64**, 102, 110, 112.

[105] Lyons H. (1968, first published 1944): *The Royal Society 1660-1940: A History of its Administration under its Charters* (New York: Greenwood Press), ix-x, 229.

[106] RS Dale [HD/6/8/6/6] 'Correspondence H.G. Lyons, 1938-1945': item 4, Lyons to Dale, 11/06/1941. Written during WWII whilst Dale was PRS, Lyons kept Dale informed of his progress

J.G. Crowther's review of the new history was published in the *New Statesman and Nation* in 1944 and he took Lyons to task. He claimed that the founders of the Royal Society aimed at "the planned development of science, for the benefit of mankind", and not this separation of scientific and non-scientific affairs. With regards to the purge of statesmen from the fellowship in the early nineteenth century, Crowther criticised Lyons's assumption that the separation of science and affairs was a desirable development; that the Royal Society should not concern itself with applied science and technology was "contrary to the Society's own charter!"[107] He went on to point out that scientific activities in the country had grown enormously and the Royal Society needed to change. He suggested that it "should reform itself again on the original Baconian lines, rather like the Soviet Academy of Sciences, with definite official status, resources and powers", echoing Bernal's sentiments in *Social Function of Science*. The following week, Hill wrote to Polanyi revealing his unhappiness with Crowther's views:

> You may have seen in last Saturday's New Statesman and Nation a review of Lyons' recently published book on the Royal Society, a review by J.G. Crowther.
>
> Don't get too excited about it when you read it: it is only his usual comic stunt of saying that Russia should be our model in everything: in this case the Royal Society should model itself on the Soviet Academy and throw all its high principles of the last hundred years to the winds.
>
> I am afraid that the editor of New Statesman and Nation would not allow you to let off steam in the pages of his journal on this subject: I am sure he is too strongly committed himself to the point of view

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and ideas and evidence for his meta-narrative. RS Dale [HD/6/8/6/6]: items 1-16, especially 3, 4, 6, 7.

[107] RS Blackett [PB/8/6/7] 'Papers and talks on science and society by others, collected by Blackett, many annotated by him, c.1943-1945': "The Royal Society" by J.G. Crowther, 20/11/1944.
For the wider reception of Lyons see: Ritchie A.D. (28 Dec 1944): "The Royal Society: Three Centuries of Science", *The Manchester Guardian;* Ivor T. (30 Dec 1944): "The Royal Society: Achievement of Three Centuries", *Times Literary Supplement* Issue 2239, 630; Brodribb C.W. (30 Dec 1944): "Letters and Science", *Times Literary Supplement* Issue 2239, 631. The review in the *Manchester Guardian* focused on the Society's tendency to favour age and orthodoxy. Due to their practice of electing Fellows *after* a period of outstanding work, Ritchie argued, the Society risks exchanging the spirit of the pioneer (as intended by its founders), for the defence of orthodoxy and vested interests.

> which Crowther so bravely and explicitly represents. Still you may be able to enjoy yourself with some suitable and effective counter stroke.[108]

This invitation shows one of Hill's tactics, asking someone else to express his views, allowing himself to remain neutral in public during the time he was Biological Secretary.

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[108] RS Hill [MDA/A/27/18] 'Correspondence of A V Hill, Pickard-Cambridge - M Polanyi, 1940s': Hill to Polanyi, 05/12/1944.
Peter Collins shows that, in 1945, a significant proportion of Fellows (84 signed Percy Andrade's petition to Council) were keen to encourage a new type of PRS that would speak effectively to government and advocate/ ensure the important role of the RS in national life, as contemplated by its founders. For a person of these talents they were willing to compromise slightly on academic stature. However, Andrade responded bitterly to Crowther's review in the *New Statesman*, opposing the suggestion that the RS should reform on the lines of the Soviet Academy. Andrade also reacted strongly against Bernal's proposal for a centralised scientific information service (more on this later). This highlights the complexities of debates going on within the RS at this time; whilst Andrade's petition invoked the founders' desire to play an important part in national life, and whilst it recognised the increasingly important role of the state as a sponsor, it was clearly not meant as a left-wing critique of the RS Establishment. Perhaps this attitude represents the middle ground of opinion with the RS at this time? Whilst all the key left-wingers in the fellowship signed Andrade's petition, more Establishment, and liberal figures also feature, such as Charles Sherrington and George Thomson. Collins P. (2011): "Presidential politics: the controversial election of 1945", *Notes and Records of the Royal Society of London* **65**, 325–342; The petition (known as the 'Memorial') can be found in: RS Florey [HF/1/17/1/30], RS Blackett [PB/9/1/101] and elsewhere (reference from Collins).
Kingsley Martin was the editor of *New Statesman and Nation* from 1930-60. He was on Orwell's list (1949) of people not suitable for writing anti-communist propaganda. His protégé and assistant editor Richard Crossman 'stole' Baker's first wife, which, Michael Kenny argues, made the battle against socialism a personal one for Baker. Kenny (2004), 406. See also Howard A. (1990): *Crossman: The pursuit of power* (London: Jonathan Cape) for more on this.

## 1.5 Utopia and dystopia

*"Progress is the realization of Utopias" Oscar Wilde*[109]

### 1.5.1 'The God that Failed'[110]

The word utopia originally comes from Thomas More's sixteenth century novel *Utopia* which depicted an island paradise. Its subsequent general definition is a condition or place of perfect social, legal and political conditions, or pejoratively, as an impossibly ideal scheme for social reform or improvement. Its dual usage in this respect is similar to that of 'new Jerusalem'.[111] 'Utopia' is not necessarily linked by definition to the application of natural science, but the necessity of depicting autarky in a remote but beneficent community is perhaps responsible for applied science becoming a trope of utopia.

Contemporary historian Robert Adams, in his 1948 article, *The Social Responsibilities of Science in Utopia, New Atlantis and after,* argued that utopianism had two main ideas: (i) a belief in an endless scientific and mechanical progress in which material progress relates positively to moral progress; (ii) a basic belief in human rationality and goodness. The genesis of the idea of progress, he argued, required two concepts to coincide: the "new science" of the Renaissance and after, and the concept of utopia in which applied natural science led to remarkable social progress, as advanced by Thomas More in *Utopia* and Francis Bacon in *New Atlantis*. The rapid expansion in the belief of progress in the late eighteenth and nineteenth centuries was linked closely to this view that man's happiness could increase slowly and indefinitely over time.[112]

In the twentieth century, belief in utopianism was challenged on both counts by the experience of the two world wars. Bacon had had unbounded faith in the

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[109] 'Wilde O. The Soul of Man Under Socialism (New York, [n. d.]), 16' reference from: Adams R. P. (1949): "The Social Responsibilities of Science in Utopia, New Atlantis and after", *Journal of the History of Ideas* **10** (3), 374.

[110] Richard Crossman and Arthur Koestler's edited volume of this title brought together memoirs of ex-communists, discussing the period 1917-1939 – why they converted to communism and then turned their backs on it. Crossman R., Koestler A. (eds) (1950): *The God That Failed: Six Studies in Communism* (London: Hamish Hamilton).

[111] Oxford English Dictionary

[112] Adams (1949), 374-5, 396.

goodness of man and in his view men of science were incapable of letting their scientific discoveries be used for evil ends. Since WWI the use of applied science in warfare and the application of science under totalitarian rule had, to quote Adams, "profoundly shaken, where it [had] not shattered, belief in the inevitability of utopian progress through science, even before the invention of the atomic bomb in 1945".[113]

*Image 3: The cover of the early edition of Bacon's New Atlantis – note the abundance of scientific equipment symbolising progress, home-grown food symbolising the fruits of progress, and diligent workers symbolising harmony.*[114]

[113] Ibid. 390-1, quote on p394.
[114] Image 3: http://coursesite.uhcl.edu/hsh/whitec/texts/UtopTexts/newatlantis.htm accessed 19/03/2013

Consequently, there was a new questioning of what 'progress' meant and certainly a questioning of the idea that material progress related positively to moral progress. Dale also reflected on these issues, observing in 1946 that:

> […] in these recent years of war, fire has again been unleashed for destruction, on a scale far beyond anything that our half-civilised predecessors would have dared to contemplate. The world and science itself are threatened, then, not because science is advancing too fast, but because mankind has recklessly abandoned moral standards which had been won by painful striving and gathered wisdom through the centuries, and which had enabled it for so long to use the gifts of science with growing safety.[115]

A similar attitude had been expressed by Hill in 1933: "It is difficult to believe in progress, at least in decency and commonsense, when [assaults upon freedom of thought and research in Germany] can happen almost in a night in a previously civilised state."[116] Baker also commented when discussing the norms of science, that he refused to uphold that every human being had worth and dignity, citing the examples of Stalin and Hitler among others.[117]

This narrative permeated much of the discourse of the SFS, which stood principally against what they perceived to be the perversion of science. In his 1945 Anniversary Address to the Society, Dale said that "before 1914 we were able to claim that science belonged thus to the world, knew no frontiers, was one and indivisible".[118] The turning point was 1915 and the use of poison gas warfare; "the dam of convention [having] been breached", he said, science was completely enlisted during the Second World War.[119]

Dale was profoundly disturbed, as were many scientists and non-scientists, by the manner in which science had been enlisted to produce the atom bomb:

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[115] Dale (1946b): "The Freedom of Science" in: Dale (1954), 67.
[116] Hill (1933), 954.
[117] OX Baker [MS Eng.misc.c.920/ F.44]: Baker to Lord Todd, 31/07/1976. Dale also expressed a similar attitude in: Dale H. H. (1948a): "Science in Education: The Foundation Oration delivered at Birkbeck College (University of London) on the occasion of the celebration of the 124th anniversary of the Foundation of the College, 4th May, 1948" in: Dale (1954), 98-113.
[118] Dale H. H. (1946a): "Address of the President Sir Henry Dale, O.M., G.B.E., at the Anniversary Meeting, 30 November 1945", *Proceedings of the Royal Society of London B* **133**, 134.
[119] Dale (1946b): "The Freedom of Science" in: Dale (1954), 69-72.

> It was to be expected that the sudden news of an event of such magnitude, with the knowledge that it was the first result of a vast scientific and technical enterprise, planned, undertaken, and completed under the impenetrable secrecy of war, would give a staggering shock to the opinion of an astonished world. There was indeed a brusque awakening to new apprehension of the kind of disaster in which civilisation might well find itself involved by a total war thus using all the resources which science and technology could provide.[120]

The use of science in war disturbed many people across the political spectrum, including Blackett and Bernal, but Dale connected this issue more directly with his liberal ideology – to argue that the Manhattan Project and any central organisation of science led to corruption and contravened the principles of science and scientists.[121]

Because utopia had often been associated with social reform, and the idea of everyone being equal and happy, it had from the late nineteenth century come to be associated with socialism and communism. Similarly, in this period, as disillusionment with communism and central organisation grew, depictions of dystopias became a staple of anti-communist rhetoric. Thus, for liberals, the dystopian sentiment complemented their ideology because it pointed out the

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[120] Dale (1946b): "The Freedom of Science" in: Dale (1954), 70-71.

[121] A related issue was that of secrecy. The liberals argued that the secrecy required for some defence-related research (such as the Manhattan Project) contravened the norms of science. As Brian Balmer has commented, those who believe(d) that secrecy was bad for science, tend(ed) to reference Robert Merton's norms of science (communalism, universalism, disinterestedness, organised scepticism), especially communalism, arguing that science cannot/ should not operate properly without the 'normal' quality control and reward systems such as publication and peer review (pp8-9). Balmer has pointed out, however, that this rests upon a one-sided interpretation of the history of science; in *New Atlantis*, he argues, Bacon imagined a role for secrecy in the House of Solomon (10). Balmer B. (2012): *Secrecy and Science: A Historical Sociology of Biological and Chemical Warfare* (GB: Ashgate), 8-10.
For a good example of a liberal position on this, see: Dale (1946b): "The Freedom of Science" in: Dale (1954), 75-78; Dale H. H. (1946a): "Address of the President Sir Henry Dale, O.M., G.B.E., at the Anniversary Meeting, 30 November 1945", *Proceedings of the Royal Society of London B* **133**, 134, 136-138. This issue did not divide easily into 'two camps' however; Bernal, in *Social Function of Science*, also castigated secrecy in science, arguing that secrecy in both governmental and commercial science prevented it from being used to the full for the good of all. It also produced much overlapping in scientific effort, and therefore was wasteful. Bernal (1939), 107-8, 150-152, 182. As for his attitude to war, Bernal once observed with frustration that "The only time I could get my ideas translated in any way into action in the real world was in the service of war. And though it was a war which I felt then and still feel had to be won, its destructive character clouded and spoilt for me the real pleasure of being an effective human being." Hodgkin (1980), 65.

dangers in totalitarianism. The evils witnessed under National Socialism in Nazi Germany, and the suppression and persecution in the Soviet Union, demonstrated the dangers inherent in socialism and central planning. Moreover, they maintained that communism was a prequel to dictatorship. This view was famously expounded by the economist, Friedrich Hayek in *The Road to Serfdom* (1944), a neo-liberal treatise from which Baker in particular drew inspiration.[122]

The scientific Left, and specifically Bernal, came under attack at this time from several anti-communist literary intellectuals, including Arthur Koestler and George Orwell.[123] Contemporaneously, the rejection of utopia was a prevalent theme in literary circles, as expressed in George Orwell's *1984* (1949). The relation of dystopia to anti-communism in this period was also demonstrated in Orwell's *Animal Farm* (1945).[124] In Orwell's image of London under totalitarian rule in *1984*, science had practically ceased to exist, except where it could serve the needs of the Party for the purposes of warfare or mind control. Party members constantly re-wrote history in line with contemporary politics. To think about something that contravened the Party's doctrine was considered a 'thoughtcrime', which was punishable by the Thought Police. In this climate, novelty, experiment and invention had ceased and science, as an objective source of knowledge, was considered dangerous because it provided an external standard by which to make a judgement. In fact, there was no word for science in the new language of 'Newspeak', except that it was sometimes grouped with other objective forms of knowledge under the term 'oldthink'.[125]

There were many parallels between contemporary dystopias and the liberals' fears for the future of science in the new Jerusalem, or under totalitarian rule elsewhere in the world. Orwell's *Animal Farm* and *1984* were written as an attack on the perceived failure of the Russian Revolution to implement a democratic form of

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[122] Edgerton (2011), 141.
Hayek was a Professor of Economics at the London School of Economics. He argued that socialism was fundamentally incompatible with liberty (the socialists claimed it was part and parcel of liberty); socialism and communism did not share roots with liberty, rather with fascism, and they inevitably led to totalitarian rule. Hayek F. A. (1944): *The Road to Serfdom* (London: George Routledge & Sons), 20-23.
[123] Werskey (1988), 285-287.
[124] Huxley A. (1932): "Brave New World," in Southwick R. (ed) (1991): *Brave New World: Aldous Huxley* (Longman); Orwell G. (1949): "1984" in: Davison P. (ed) (2008): *George Orwell: 1984* (London: Penguin Books Ltd.); Orwell G. (1945): "Animal Farm" in: Carter R. (ed) (1999) *George Orwell: Animal Farm* (London: Penguin Books Ltd).
[125] Orwell (1949), 196-197, 201, 280, 290, 318-319.

socialism, the aggressive application of science in the Soviet Union, and the oppressive behaviour of the Soviet leader Josef Stalin.[126] This was particularly evident in Orwell's parody of the Soviet five-year plan as the three-year plan in *1984*.

Bernal worried that such views were an obstacle to the success of his proclamations for the central organisation of science. The rejection of utopias, he argued, was largely due to the failure of writers to present an attractive picture. He said, even H.G. Wells, who sympathised with his left-wing ideas and had believed in the feasibility of utopia, had failed to depict a desirable utopia because he was "as much the victim of present-day conditions as [his] reactionary critics".[127] Indeed, Wells's later novels towards the end of the war (and of his life) were much more pessimistic. Contemporary representations of utopia, Bernal argued, depicted perfect organisation only in tandem with a lack of freedom, a lack of effort, and an over-regulated, robotic existence; "Fairly envisaged, it seems hardly worthwhile sacrificing much in the present if this is all the future has to offer".[128]

### 1.5.2 A modern utopia?

In *Social Function of Science* Bernal had outlined his ideas for the role of scientific information in his imagined utopia, an idea that was pursued after the war through links with the Association of Special Libraries and Information Bureaux (ASLIB) and in proposals drawn up by the AScW. Bernal pictured a central distribution bureau for scientific information and publications, which would be much more efficient than the existing chaotic, pluralist system. The scheme focused on users' individual needs – an 'order to service' system that incorporated a new format of the scientific paper which was shorter, something more akin to a scientific abstract (with more information available on request). In

[126] Carter R. (ed) (1999) *George Orwell: Animal Farm* (London: Penguin Books Ltd), vii. Orwell's *1984* depicts London under *IngSoc* or English Socialism. However, Orwell said that all his serious work since 1936 was against totalitarianism and for democratic socialism. He believed that it was necessary to expose the Soviet myth and destroy it in order for the socialist movement to revive. Carter (1999), xi.
[127] Bernal (1939), 381.
[128] Ibid. 381.

his vision, the scheme would eventually be extended to the Commonwealth and then the World.[129]

His ideas were influenced by H.G. Wells's vision of the user-oriented 'World Brain' or the 'World Encyclopaedia', which had appeared in various fictional forms since his *A Modern Utopia* (1905), but was particularly expounded in the 1930s as an actual scheme. It tied into a system envisioned by Watson Davis, Director of the United States Science Service in Washington, that utilised the new technique of microphotography to order an increasingly chaotic information society.[130]

Bernal presented his proposals for a central information authority at the Royal Society Empire Scientific Conference in 1946, where they were well received, leading to their consideration at a special conference on scientific information to be organised by the Society. At the Empire conference, proposals were also provisionally accepted to establish a British Institute of Scientific Information (ISI), along the lines of the Science Service in the USA.[131]

In his first period of service on the Council of the Royal Society from 1947 to 1949, Bernal was invited to be on the organising committee for the Royal Society Scientific Information Conference (to be held in June 1948), and to be Chairman of the section on publication and distribution of scientific papers. Simultaneously, Bernal was working with John Kendrew on a study of reading habits and information needs of working scientists. Bernal's paper 'Provisional scheme for

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[129] Bernal (1939) 292-301; Muddiman (2003), 393-394; Bernal J. D. (1948) "Provisional Scheme for Central Distribution of Scientific Publications", in Royal Society (ed): *The Royal Society Scientific Information Conference 21 June – 2 July 1948: Report and Papers Submitted* (London: The Royal Society), 253-258.

[130] Boyd Rayward W. (1999): "H. G. Wells's Idea of a World Brain: A Critical Reassessment", *Journal of the American Society for Information Science* **50** (7), 557-573; Black, Muddiman (2007), 21; Muddiman (2003), 392; Bernal (1939), 260, 306, 398.
In *A Modern Utopia*, Wells suggested that "Bacon's visionary House of Solomon" would finally be realised in a new highly efficient information utopia. After WWI, Wells was committed to the idea that a new world order was needed. His attitude towards Russia was ambivalent because he abhorred fascist dictators yet seemed to suggest that their totalitarian regimes were an intermediary step towards the inevitable unified World State he believed in. His ideas seemed to be based on an idea of science as providing objective truth. The 'World brain' would employ thousands of workers to re-assess information from researchers and bring summaries up to date: people working around the world in a network. Later in life, Wells felt that World Institute of Thought and Knowledge would be a more appropriate name. Boyd Rayward (1999), 557, 561-2, 569.

[131] Muddiman (2003), 394-5.

the central distribution of scientific publications', was circulated ahead of the conference in February 1948 to FRSs and prospective conference participants.[132]

Within the SFS Baker reacted promptly and strongly to Bernal's proposals, arguing that his 'totalitarian' scheme required submission of publications to a central editorial depot, which would seriously compromise the independence of scientific journals.[133] Baker was particularly worried because he felt that Bernal was exercising considerable influence within the Royal Society. He wrote to the SFS Executive Committee in March 1948:

> Bernal is very influential in the physical and chemical part of the Royal Society, and if he gets his way, the independence of scientific publication will disappear.[134]

In response to Baker's letter, and on reading Bernal's "dangerous and detrimental" proposal, Dale sought the counsel of Edward Salisbury, the (new) Biological Secretary (1945-55) and Vice-President (1946-55) of the Society.[135] Salisbury told Dale that although Bernal was the Chair of that section of the conference, his proposal was regarded as representing his *personal* views rather than those of the Society. In fact, he wrote, "[Bernal] has rather been encouraged to trail his coat, in order to arouse vigorous discussion". Dale wrote back to Baker: "Whether it is wise for the RS officially to circulate documents so prepared we need, perhaps,

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[132] Ibid. 395.
**John Kendrew** (FRS 1960) was a molecular biologist. Early in WWII he worked on the development of radar as a junior research officer in the Air Ministry. From 1941 he was posted abroad working on operational research in the Middle East and South-East Asia. Upon meeting Bernal during an operation in South-East Asia, Kendrew was inspired to study protein structure. In 1962 he won the Nobel Prize in Chemistry jointly with Max Perutz for determining the first atomic structures of proteins using X-ray crystallography. Holmes K.C. (2001): "Sir John Cowdery Kendrew. 24 March 1917-23 August 1997", *Biographical Memoirs of Fellows of the Royal Society* **47**, 314-316, 321, 324-326, 329, 331.

[133] In fact, Bernal's proposal specifically mentioned that the scheme would not interfere with the editorial functions of scientific societies. Royal Society (1948c), 253. Harry East argues that Bernal's reputation as a radical left-winger played an instrumental part in the rejection of the proposal, as this sole piece of information, coupled with the title of the scheme, overrode careful consideration of the content of the proposal. East H. (1998): "Professor Bernal's 'Insidious and Cavalier Proposals': The Royal Society Scientific Information Conference, 1948", *Journal of Documentation* **54** (3), 293-302.

[134] RS Dale [HD/14/36]: item 26, SFS (Baker) to the Executive Committee, 20/03/1948.

[135] **Edward J. Salisbury** (FRS 1933) was a botanist colleague of Tansley's and Director of Kew Gardens (1943-56). He served on the RS Council 1937-8 and 1942-4. His first term as Vice-President was 1942-3. Godwin (1957), 231; Clapham A. R. (1980): "Edward James Salisbury. 16 April 1886 - 10 November 1978", *Biographical Memoirs of Fellows of the Royal Society* **26**, 505, 507, 520, 535.

hardly discuss", and suggested that Baker's planned rebuttal of the proposal should be sent to the Society with a claim for equal circulation.[136]

As it happened Baker decided to make his views more public, and sent a letter to *Nature*, co-authored by George Thomson FRS, which appeared on 15 May 1948. It expressed concerns about censorship, the danger that good work could be rejected or suppressed by a central editorial committee.[137] Soon after, the Society received a large number of protests from individual scientists and scientific societies, concerned with the threat that Bernal's scheme posed to the existing autonomy of scientific journals.[138] Dr. Walshe wrote to the Society "What a planner's paradise is there envisaged […]. The idea of a single central body deciding whether or not a paper should be printed or published is abhorrent".[139]

Another opinionated onslaught appeared in *The Times* on the opening day of the conference, in which Percy Andrade FRS referred to the "regimentation" of Professor Bernal's "cavalier and insidious" proposal, and in the same issue Baker and Tansley castigated its "totalitarian" nature.[140] Bernal was forced to withdraw his proposal on the same day, and was able to save some face by reporting that the preliminary results of his pilot study with Kendrew had shown that the scheme was unnecessary as scientists appeared to be using libraries (rather than reprints)

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[136] RS Dale [HD/14/36]: item 29, Dale to Baker, 25/03/1948. The rebuttal was to be written by H. Godwin FRS and Dale suggested that it should also be given as a direct contribution to the Scientific Information Conference.

[137] Baker, J. R., Thomson G. P. (15 May 1948): "Proposed Central Publication of Scientific Papers," *Nature* **161** (4098), 771-772 (Letters).

[138] Muddiman (2003), 395-6.

**George Thomson** (FRS 1930) was the son of the physicist J.J. Thomson. During WWII he played an instrumental role in the development of the atomic bomb, before serving as a Scientific Liaison Officer in Ottowa, and subsequently, as a scientific advisor to the Air Ministry. As well as serving on the Council in 1937-38 and 1949-51, he was a Vice-President of the Society in 1950-51. Serving for a while as President of the SFS, Thomson was opposed to 'planning', once describing it as an "insidious disease". However, he maintained an interest in the Pugwash Conferences on Science and World Affairs throughout the 1950s and 60s, despite their strong association with the scientific Left. Moon P. B. (1977): "George Paget Thomson. 3 May 1892 - 10 September 1975", *Biographical Memoirs of Fellows of the Royal Society* **23**, 529, 545, 552-553.

[139] Walshe in: Royal Society (1948c), 535.

[140] Andrade P. (Jun 21 1948): "Records of Research", *The Times* Issue 51103, p5, col C; Baker J. R., Tansley A. G. (21 Jun 1948): "Publications on Science. Threat to Journals. Resolution at To-day's Conference", *The Times* Issue 51103, p5, col E; See also Brown (2005), 292-6.

**'Percy'Andrade** (FRS 1935) was a physicist. During WWI he served as an artillery officer and later a captain. From 1917 he worked on explosives at the Ministry of Munitions. A hobby of his was the history of science, especially physics and the early Royal Society. During WWII he carried out some science advisory work for the Ministry of Supply and served on the Society's Council 1942-44.He was an enthusiastic clubman, being a member of the Athenaeum and the Royal Society Dining Club amongst others. Cottrell A. (1972): "Edward Neville da Costa Andrade. 1887-1971", *Biographical Memoirs of Fellows of the Royal Society* **18**, 2, 4-6.

as their primary source of information.[141] Still, during the conference, Bernal wrote to *The Times* to try to undo the undue alarm created by Baker and Tansley. He reiterated that the proposed central body would not have the editorial functions that the guardians of scientific freedom were suggesting; rather it would be "a mere post office".[142] Yet a letter that was printed just after Bernal's, from the zoologist Herbert Fleure FRS, who wrote regularly for the right leaning *Quarterly Review,* pressed home the 'totalitarian' allegation:

> […] the dangers inherent in such a plan are very serious. The central body might be captured by one school of thought and might acquire influence with the administration of the Government grant for scientific publication. It could thus only too easily lead to a political domination of scientific thought. […] The attitude towards Einstein in Germany and Vavilov in the U.S.S.R. is only too clear an indication of what may happen under the totalitarian system […].[143]

Bernal was left wondering what had happened between the favourable reception at the Empire Scientific Conference and the outcry at the Scientific Information Conference. Indeed, in the wake of the former, in which no progress was made with the proposed ISI, much had happened to accelerate the East-West ideological divide.

Since Churchill's 'Iron Curtain' speech on 5 March 1946, the first East-West war by proxy was being fought in Greece, communists had ended the monarchy in Bulgaria, and elections were being closely watched throughout Europe as communist parties gained influence. Cominform (an information bureau for Soviet, East European, French and Italian communists) was established in 1947, beginning the development of censorship apparatus in Soviet puppet regimes in Eastern Europe. Anti-Soviet initiatives in the USA were soon paralleled by anti-communist drives in Britain, even within the labour movement. The scientific Left came under attack from many sides and the AScW lost favour with thousands of

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[141] Muddiman (2003), 396.
[142] Bernal J. D. (Jun 23 1948): "Scientific Papers. Professor Bernal's Scheme. Central Distribution", *The Times* Issue 51101, p5, col E.
[143] Fleure H. J. (Jun 23 1948): "Scientific Papers. Professor Bernal's Scheme. Central Distribution", *The Times* Issue 51101, p5, col E.

scientists as well as the Labour Government.[144] A purge of communist scientists and technicians from the British Civil Service took place in 1948, and members of the SFS became active in gathering ammunition to expose incidences of censorship within the Soviet Union information empire.[145]

On 1 April 1948 Soviet officials began interfering with Western transportation into Berlin, leading to a blockade and eventually the Berlin airlift which began on the final day of the Scientific Information Conference.[146] The Scientific Information Conference is now considered to have marked the beginning of the modern study of human information-seeking behaviour. The post-war increase in scientific literature, either newly published or recently released from war-time restrictions, created the impetus for such an event, which sought new ways of ordering and rationalising scientific information.[147] The central theme of the conference was the need for reform of the present system, from the format of the journal paper to methods of replication such as photocopying, and the role of libraries. The conference organisers asserted that the task of keeping up with the scientific literature, especially with increasing specialisation, was becoming

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[144] Werskey (1988), 278-279.

[145] OX Peierls [MS.Eng.Misc.b.212]: Peierls to Polanyi, 08/02/1946. Peierls was associated with a group of physicists and others in Russia, although he was sympathetic to Polanyi's cause. Through Peierls, Polanyi found out the following about the organisation of information in the Soviet Union: (i) for scientists imprisoned, exiled or dismissed, a rule was made that no mention should be made of their names (i.e. their 'crimes' should not be published) and they should be removed from scientific publications;(ii) where the author of a manuscript was arrested before publication, the paper would be printed under the remaining author's names, and referenced bibliographically by volume and page only, not name; (iii) it was hearsay that a rule was made in Russian public libraries that back-copies of newspapers were not to be issued to readers unless they possessed a certificate that the material was for research for an official institute. Later, in 1950, Baker and Dale played a key role in exposing (what they perceived to be) the pseudo-scientific nature of Soviet science when a contact in the Foreign Office leaked some Soviet documents to Baker which were subsequently published by the SFS with covert funding from the Foreign Office. GL Hindle [DC75/D.2]; RS Dale [HD/14/36]: item 81, Dale to Baker, 15/09/1950. See footnote 76 for more information.

**Rudolf Peierls** (FRS 1945) was a theoretical physicist. He was a German Jew and emigrated to Britain in 1937. He was instrumental in the development of the atomic bomb. He later became active in the Pugwash Movement, devoting much time towards the goals of nuclear disarmament and rapprochement with the East. There were continued attempts to link him to Soviet espionage circles, as he had a Russian wife and numerous Soviet and Communist contacts, but no evidence was found to this effect. Lee S. (2007): "Rudolf Ernst Peierls. 5 June 1907 - 19 September 1995: Elected FRS 1945", *Biographical Memoirs of Fellows of the Royal Society* **53**, 265, 274, 279.

[146] Young J. W. (1993): *The Longman Companion to Cold War and Détente 1941-91* (New York: Longman), 11-17; Muddiman (2003), 398.

[147] Wilson T. D. (2000): "Human Information Behavior", *Informing Science* **3** (2), 50; Line M. B. (1998): "An information world apart: The Royal Society Scientific Information Conference of 1948 in the light of 1998", *Journal of Documentation* **54** (3), 284-285.

unmanageable.[148] Brian Vickery argues that the conference had the effect of focussing the attention of the government on the urgent need for improvement of the current system; this initiated discussions which eventually led to the creation of the National Lending Library.[149]

The tide was slowly turning against centralised initiatives such as Bernal's in the context of the emerging Cold War, whilst in the information sphere in particular, the centralised Soviet Union information empire posed an ideological challenge to the establishment of a (Western) market-led globalisation of information.[150] As Dave Muddiman argues, the Scientific Information Conference demonstrated how Bernal and his associates had reached the limits of tolerance of a liberal, capitalist democracy and its scientific Establishment.[151]

### 1.5.3 The Lysenko affair

Bernal's information utopia faced some serious barriers in 1948 in the emerging Cold War climate, but the Lysenko Affair really put the nail in its coffin. Indeed, the episode made Orwell's dystopia seem prophetic. Trofim Lysenko was a Soviet scientist who published reports that claimed to have demonstrated the inheritability of acquired characteristics. His neo-Lamarckian research programme was considered by Stalin to complement the principles of socialism, whereas Mendelism was Western and bourgeois. For instance, Lysenko claimed to have found a mechanism for evolution based on co-operation rather than competition. Lysenko's teachings became dogma in the biological community of the Soviet Union and many geneticists were fired, arrested, and exiled for their continued adherence to modern ('Western') genetics. The Lysenko controversy had been gathering momentum since the mid-1930s, but it reached its peak in 1948 when

[148] Vickery B. (1998): "The Royal Society scientific information conference of 1948", *Journal of Documentation* **54** (3), 282; Line (1998), 285.
[149] Ibid. 283.
[150] Muddiman (2007), 74-75. Nationalised plans for science were further trimmed under the Conservatives from 1951. Black, Muddiman (2007), 49.
Arguments about the Society's independence from government were also rehearsed at this time in discussions over a proposed Science Centre on the Southbank of the Thames which would house the RS alongside other leading societies, the DSIR and other government science organisations. See Hughes J. (2008): "The Royal Society and the New Jerusalem", Paper for the BSHS-HSS-CSHPS Three Societies Meeting, 4-6 July 2008; Hughes J. (forthcoming): "A New Jerusalem for British science? Government, the Royal Society and postwar London", *British Journal for the History of Science*; Rowlinson (1992), 8-9.
[151] Muddiman (2003), 398.

modern genetics was prohibited in the Soviet Union and references to it were removed from texts.[152]

The Lysenko affair has been well-documented in the scholarly literature by, for instance, David Joravsky (1970) in *The Lysenko Affair*. However, later accounts, such as Nils Roll-Hansen's (1985) have criticised Joravsky for explaining the Lysenkoist movement as a case of pseudo-science. Roll-Hansen points to the fact that, during Lysenko's rise to prominence in the 1930s, he received scientific recognition from his international peers that was independent of Stalin's political will.[153] Richard Levins and Richard Lewontin (1976) make a similar argument, that the Lysenkoists' Marxist approach actually provided promising insights during the controversy, but the 'two camps' interpretation of the affair cast it as a contest which must end in victory or defeat, thus preventing any creative assimilation of new developments in genetics.[154]

William Dejong-Lambert and Nikolai Krementsov's recent (2012) article builds on this idea by suggesting that the Lysenko affair should be re-assessed in terms of local and global agendas associated with the Cold War. They propose a new approach which acknowledges that actors deployed the controversy as a cultural resource to address a variety of issues in domestic and international arenas. For instance, biologists employed the controversy to discuss the relations of science to the state, industry, society and ideology.[155]

In the case of the freedom and planning debate, it was certainly the case that the Lysenko affair was mobilised as a cultural resource. The Foreign Office publicised

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[152] Josephson P. R. (1996): *Control of Nature: Totalitarian Science and Technology* (New Jersey: Humanities Press), 40-41.

[153] Joravsky D. (1970): *The Lysenko Affair* (Chicago: University of Chicago Press); Roll-Hansen N. (1985): "A new perspective on Lysenko?" *Annals of Science* **42** (3), 262-63.

[154] Levins R., Lewontin R. (1976): "The Problem of Lysenkoism", in Rose H., Rose S. (eds) *The Radicalisation of Science* (London: Macmillan Press Ltd), 63-64. Their interpretation of the controversy, however, has its own agenda: to defend the use of dialectical analysis by distilling it from the Lysenkoist movement, thus helping to bring Marxist insight into the practice of science. Lysenkoism, they claim, was a "vulgarisation" of Marxism; the Lysenkoists applied it incompletely and at inappropriate levels (quote on p64). Furthermore, by depending increasingly on Party support, they brought in repressive apparatus, and undermined their own anti-elitist philosophy. Levins, Lewontin (1976).

[155] Dejong-Lambert W., Krementsov N. (2012): "On Labels and Issues: The Lysenko Controversy and the Cold War", *Journal of the History of Biology* **45**, 380-382. To provide another example of how actors used the controversy as a cultural resource, Dejong-Lambert and Krementsov argue that the controversy offered an easy way for countries outside the 'two camps', eg China, to demonstrate where their loyalties lay in the Cold War conflict, thus allowing them to exploit the benefits that loyalty would entail. Dejong-Lambert, Krementsov (2012), 382.

it as a form of counter-Soviet propaganda (this is explored further in chapter 2). The liberals mobilised it to marginalise the scientific Left and to influence the course of the freedom and planning debate. Finally, both politicians and liberal scientists utilised it to 'demonstrate' how British science, and the Royal Society should remain at arms' length from government.

Indeed, the Lysenko affair was used to destroy the shining Soviet example for the planners, and somewhat vindicate the liberals. Even Haldane, being in a difficult position as a left-wing geneticist, slipped quietly away from the communist connection, but unlike other converts, did so without apology, refusing to completely denounce Lysenko (and therefore the Soviet Union). For Bernal, his defence of Lysenko and continued support of the Soviet Union brought him under increasing attack from this period onwards.[156]

At the height of the Lysenko controversy, on 22 November 1948, Dale resigned from his honorary membership of the Soviet Academy of Sciences in an open letter to its President, Sergey Vavilov. He did so in (retrospective) protest over the treatment of certain Russian geneticists, particularly Nikolai Vavilov (brother of the President). In the late 1930s, Nikolai Vavilov was leader of the opposition to Lysenko. He was dismissed from his scientific post early in the war, arrested in 1940, and later died in a camp under curious circumstances of secrecy at some point between 1941 and 1943. He became the martyr of classical genetics in its struggle with Lysenkoism.[157] At the time that Dale wrote the letter, there was uncertainty within the Royal Society as to whether Nikolai Vavilov had still been alive when they had elected him to their foreign membership in 1942.[158] What also

[156] Pirie N. W. (1966): "John Burdon Sanderson Haldane. 1892-1964", *Biographical Memoirs of Fellows of the Royal Society* **12**, 222; Paul D. B. (1983): "A War on Two Fronts: J.B.S. Haldane and the Response to Lysenkoism in Britain", *Journal of the History of Biology* **16** (1), 36. A distinction was emerging at this time between acceptable and unacceptable scientific leaders, in which 'acceptable' meant 'sympathetic to government views'. Jones (1979), 36, 38.
In 1949 Bernal was refused a visa to the USA and stripped of his BAAS membership. Muddiman (2003), 398. Having had little difficulty immediately after the war, from around 1949 he found it difficult to obtain research grants. Hodgkin (1980), 62. For more on Bernal's experience as a dissident of the West, see chapter 2.

[157] Roll-Hansen (1985), 262.

[158] It later transpired that Nikolai Vavilov had died in prison in 1942, shortly after he was elected as a foreign member of the RS. Rowlinson (1992), 8. Andrew Brown claims that he died in 1943. Brown (2005), 303. Nikoli Vavilov persisted in questioning Lysenko's proclamations. He was followed by the NKVD (a forerunner of the KGB), sentenced to death for treason, but died in jail. Repeated enquiries about Vavilov from the RS to the Soviet Academy of Sciences went unanswered. There seemed to be a kind of war of foreign membership going on around this time – people like Andrei Sakharov and Vavilov were elected to the RS, whilst Bernal, by 1958, had been

prompted the letter in 1948, was the dismissal of Dale's friend L. Orbeli from the Biological Secretaryship of the Soviet Academy. He had been forced to resign for not preventing the Soviet biologists from working along Mendelian lines.[159]

Dale's letter received wide publicity, and its call for the defence of scientific freedom did not fall on deaf ears. By the time of the Royal Society's Anniversary Dinner on 30 November 1948, all contact had been severed between the Royal Society and the Soviet Academy of Sciences.[160] The theme at the Anniversary Dinner was unmistakably that of 'freedom' and how it was essential to scientific enquiry. Moreover, strong claims were made that the Royal Society was its custodian in Britain and its Empire.[161] The Lysenko affair seemed to support the contrast, drawn by Foreign Secretary Ernest Bevin the previous year, between life in Britain and the violations of human rights taking place in Eastern Europe.[162] It was in this context that the Lord President of the Council, Herbert Morrison spoke at the Anniversary Dinner:

> In other countries, very close to us in terms of modern communication, we hear of scientists being proscribed and persecuted on account of alleged deviations from a political dogma. […] Any British or other scientist who supports this sort of thing will soon cease to be a scientist – or at any rate a scientist on whom reliance can be placed. Therefore, for scientists all over the world this Royal Society is a citadel of standards and values which must be vigilantly and vigorously defended day and night.[163]

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elected to the Soviet Academy of Sciences, and its counterparts in Hungary, Poland, Romania, Bulgaria, Czech, and later East Germany (compared to a "meagre and disproportionate" recognition in the UK according to Brown). Brown (2005), 298-304, 444. Dale's open letter was published in the Russian weekly newspaper *The British Ally* on December 12 1948. The newspaper was subsequently declared to be anti-Soviet and was closed by demand of the authorities. Medvedev (1969), 136.

[159] RS Dale [HD/14/36]: item 54, Dale to Baker, 25/07/1950; Anon. (26 Nov 1948): "Protest to U.S.S.R. by Sir H. Dale", *The Times* Issue 51239, p4, col D; Jones (1979), 37.

[160] Rowlinson (1992), 8; Jones (1979), 37; Muddiman (2003), 398.

[161] Robinson R. (1949a): "Address of the President Sir Robert Robinson, at the Anniversary Meeting, 30 November 1948," *Proceedings of the Royal Society of London A* **196** (1044), xiii-xiv; Morrison H. et al (1949): "Anniversary Dinner 1948", *Notes and Records of the Royal Society* **6** (2), 82-103.

[162] Jones (1979), 27.

[163] Morrison H. (May 1949): "Anniversary Dinner 1948", *Notes and Records of the Royal Society* **6** (2), 82.

This speech lay in contrast to one that he made to a conference organised by the AScW in 1946, in which he pledged his commitment to planned science and scientific planning in peacetime.[164]

In his presidential speech, Sir Robert Robinson placed the Royal Society at the heart of this controversy. He expressed hope that all Fellows would share the opinion that the Society should play a leading part in upholding the ideals of disinterested investigation, that it could not be right to substitute the objective of 'the improvement of natural knowledge' for 'usefulness'. He argued that, in light of the expansion of government support for science, there must be a "kind of equilibrium" between the two, where "It is to be hoped that we may continue to receive a light kiss as a token of affection and that this will never become the stifling hug of a bear".[165]

## 1.6 Conclusion

In this chapter I have shown how the internal politics and external relations of the Royal Society were sites where the freedom versus planning debate was played out in British science. The place of the Royal Society in the controversy before 1945 has received little attention from historians, which I suggest was partly due to its wartime leaders, Henry Dale and A.V. Hill, and their reluctance to appear partisan. As 'middle men' they were able to deploy 'freedom talk' because it was easy to equate 'freedom from the state' with 'freedom from political ideology', but I have shown that this was a form of liberal rhetoric that complemented their private political viewpoints.

McGucken has portrayed Dale as a passive figure in wartime who did not think that there was much danger from the planning doctrine. Looking at the freedom and planning debate through the lens of the Royal Society, I have argued that Dale and Hill employed tactics to influence the course of the controversy whilst they were either otherwise constrained or assisted by their guise of neutrality. This has provided some insight into the corporate strategy of neutrality often employed by the Royal Society.

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[164] Werskey (1988), 275-276.
[165] Robinson (1949a), xiv; Robinson R. (1949b): "Anniversary Dinner 1948", *Notes and Records of the Royal Society of London* **6** (2), 88-89.

With regards to Dale, his liberal, anti-communist agenda has been highlighted, particularly after his presidency, by looking at his wider public activities and his private correspondence. This adds weight to the impression of Dale being aligned with the liberals' position on freedom and planning whilst he was PRS. The analysis of his post-war activities is, of course, applied retrospectively to his wartime position and so must be approached with caution. In telling Baker that he felt unable to join the SFS during his presidency, Dale may have exaggerated his position in order to present himself as someone who had consistently supported the cause. However, the analysis of Dale's wartime addresses certainly shows him to be supporting the freedom of science.

The second argument highlights the importance of the Royal Society as a contested emblem in the freedom and planning debate, as both camps attempted to show that the aims of its founders justified their policies. As later chapters will show, Fellows routinely use versions of the past, in debates and negotiations about its contemporary role and purpose. Indeed, I have shown that such histories extended beyond the future of the Society itself, to the future of society, which in the late 1940s was expressed in competing visions of utopias and dystopias. In terms of the future of science, I show that 1948 was a pivotal year, where the official position of the Society moved decisively to support 'freedom' over 'planning'; first, in the controversies prompted by the Scientific Information Conference and then in reactions to Soviet endorsement of Lysenkoist genetics. Indeed, the Society became an icon of liberal Western democracy, and freedom in science.

## 1.7 Appendix

RS Dale [93HD 11.1]: item 73, pp2-3.

"Draft speech to 10th Anniversary Dinner" – to be given 04/09/1950

Mention of my own late entry into the Membership reminds me of the circumstances of the Society's foundation in 1940. When Tansley brought it to my notice I had recently become, or was just about to become, President of the Royal Society; and, though I was personally in full sympathy with the movement to defend and to advocate scientific freedom, I did not think that, in my new official

capacity, I ought then openly to join it, in view of its possible entanglement in controversy, on which, even among the Royal Society's Fellows, there might be some division of opinion and allegiance. I still think that the decision was then correct; for the President, to his discomfort, has to allow for a presumption that his public actions, in matters affecting Science, represent the attitude of the Royal Society. On the other hand, I find something congenial to the spirit of scientific freedom in the so-called "Advertisement", which stands at the beginning of each volume of the Royal Society's Philosophical Transactions. This includes the declaration of "an established rule of the Society, to which they will always adhere, never to give their opinion, as a Body, upon any subject, either of Nature or Art, that comes before them". In other words, there is to be no question of any authoritative, corporate opinion of the Society, which might over-ride or diminish the complete freedom of its Fellows, or of any other scientists, to form their own scientific judgements. The Royal Society accordingly, when asked by the Government to give an opinion, or to adjudicate, on any important matter of science, has always remitted the question to a Committee of selected experts and transmitted any resultant opinion as one expressed by those experts in person, and not as a corporate decision of the whole Society.

[…]

So we have, on the one hand, the Royal Society standing officially aloof from questions on which the opinions of its Fellows may be divided, and repudiating corporate authority for itself on any matter of science; and, on the other hand, standing firmly and without compromise, as I most devoutedly hope it will always do, against any attempt by outside authority to interfere with the freedom of scientific discovery and interpretation, in the interests of political convenience, or of compliance with any extraneous dogma.

# CHAPTER 2

## The long 1950s: an introspective Society? 1946-64



### 2.1 Introduction: the long 1950s

The period 1946-64 has been characterised as the 'long 1950s' by Keith Booker in his 2002 study of American cultural history, *The Post-utopian Imagination.* It refers to the peak Cold War years, from the onset of the Cold War through a staid and politically reactionary period, in which left-wing ideas completely disappeared from the public imagination. Booker describes it as a period in American history in which it was essentially impossible to present a left-wing alternative to the capitalist status quo without it being equated with communism, and therefore evil. The political climate of the Cold War created a situation in which ideas of utopianism and socialism "completely collapsed" in the American imagination, as liberal intellectuals dismissed their former left-wing ideas as "naïve and simplistic".[1]

[1] Booker M. K. (2002): *The Post-utopian Imagination: American Culture in the Long 1950s* (USA: Greenwood Press), 1-2, 8, 13; See Booker's *Monsters, Mushroom Clouds, and the Cold War* for

Certain features of the 'long 1950s' have resonance in British history also. Following the onset of Cold War, Attlee's Labour Government often found themselves in an uncomfortable position as proponents of a socialist 'third way', at a time when the world was dividing into two distinct camps. It was the same for scientific organisations such as the World Federation of Scientific Workers (WFSW) and individuals such as Patrick Blackett, who both aroused suspicion for not being readily placed along East-West lines. Greta Jones argues that as early as 1948, those who were not pro-Western were considered to be pro-Soviet.[2] At the next general election Britain became Conservative and remained that way until 1964. McCarthyism (the increased fear of communist espionage and subversion) peaked in America in the early-mid 1950s, with government employees as the primary targets of investigations. In Britain there was a purge of communists from the civil service and a rigorous conformity in the scientific community served to push its suspicious members into an outsider's position.[3] Despite the Establishment status of the Society, Fellows (FRSs) were well-represented on lists of suspected 'fellow-travellers'.

A subsidiary feature of the 'long 1950s', Booker argues, was the globalisation of capitalism; the great colonial empires collapsed to be replaced by the hegemony of transnational corporations and Western culture.[4] Booker overstates Western predominance, as Soviet hegemony across the Eastern Bloc and into ex-colonial territories was also very powerful. With an Empire in decline, and reliant on American Marshall Aid, the British government became firmly pro-American, with the allied wartime connections between the British Commonwealth and America being renewed and extended into the Cold War period.

This chapter explores the position of the Society during the 'long 1950s'. Scholarship on the Society during this period is sparse, and a number of commentators depict it as having been introspective and politically disengaged. I confront this interpretation by exploring the activities of individuals in order to

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Booker's original argument that this period, the "peak Cold War years", can be usefully thought of as a discrete unit. Booker (2002), 1, 197.

[2] Jones G. (1988): *Science, Politics and the Cold War* (New York: Routledge), 93.

[3] Jones (1988), 93-94. See also Badash L. (2000): "Science and McCarthyism", *Minerva* **38,** 53-80.

[4] Booker (2002), 3.

shed light on the fellowship in this period. Ultimately, I argue that the Society, when viewed less as an institution and more as a collection of individuals, was very politically engaged. The Society's rhetoric of universalism and internationalism should not be taken at face value, as its body politic and private political networks were very active. In this connection, the chapter explores the contradictions between nationalism and internationalism during the International Geophysical Year (IGY) in 1957-58.

The chapter also looks at the position of the Society in the transition from Empire to Commonwealth. I show that the science infrastructure assembled in wartime was maintained in peacetime with a strong allegiance to America. The Society played a large part in recommending and overseeing this transition. I discuss how the Society mobilised the democratic ideals of Commonwealth, and made certain decisions which served to tie the science academies of the Commonwealth to the metropolis. However, it seems that the Society mobilised the 'Commonwealth family' rhetoric without too much financial commitment or engagement. From the early-mid 1960s the Society became much more interested in the possibilities offered by the European Community, and embraced this with enthusiasm.

## 2.2 1945-65: an introspective Society?

Although the Society as an institution had kept a low profile in the 'freedom and planning' debate of the interwar and wartime period, the controversy still had a profound influence on the attitudes of Fellows and formed a backdrop to subsequent elections of Officers. As Peter Collins argues in his recent paper, *Presidential Politics: The controversial election of 1945*, elections provided opportunities for Fellows to renegotiate the Society's values and objectives. The discussion surrounding the 1945 presidential election focused on the issue of whether scientific excellence should be the main criterion for a President of the Royal Society (PRS). As mentioned in chapter 1, Percy Andrade's pre-election petition signed by eighty-four Fellows, argued that, whilst the Society should resist too much government control over itself and national science, it needed to secure an influential place in public life, advise at the national level and avoid being outmanoeuvred by the British Council as the authority on international

science. To achieve these aims, the signatories were willing to sacrifice a degree of scientific excellence in favour of a President who would be politically savvy.[5]

Although there were multiple reasons why the signatories' choice, Henry Tizard, was not elected, Collins argues that the choice of Robert Robinson seemed to symbolise a post-war Society devoted in equal measure to pure science and independence from the state.[6] In choosing Robinson, the criterion of scientific excellence was not compromised, and Collins argues that two successive presidents, Robert Robinson and Edgar Adrian, maintained the status quo by remaining committed to keeping the Society out of national affairs, policy and politics. Whilst Adrian's successor, Cyril Hinshelwood, was more concerned than his predecessors over the diminishing influence of the Society, it was not until Howard Florey's presidency, between 1960 and '65, that national affairs were put back on the agenda.[7]

John Rowlinson in his 1992 paper, *The Development of the Society, 1940-1989,* agrees that it was not until the early 1960s, under Howard Florey's presidency, that the Society increased their engagement with national science policy and education, becoming particularly involved with the Robbins[8] and Trend[9] Reports, and the issue of the 'brain drain' of British scientists and engineers to America.[10]

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[5] Collins P. (2011): "Presidential politics: the controversial election of 1945", *Notes and Records of the Royal Society* **65**, 325-329.

[6] Andrade petitioned for a president who would be neither ornamental nor quarrelsome, rather someone who had experience of how to get things done - energetic, courageous and politically savvy. Andrade felt that Robinson would not give sufficient attention to the affairs of the Society and was temperamentally unsuited to the position, whereas Tizard already had considerable Whitehall experience. Collins (2011), 330.

[7] Collins P. (2010): "A role in running UK science?" *Notes and Records of the Royal Society* **64**, 119-122; See also Collins (2011), 329, 337-338.

[8] Committee on Higher Education

[9] Committee of Enquiry into the Organisation of Civil Science

[10] Rowlinson J. S. (1992): "The Development of the Society, 1940-1989," in Rowlinson J. S., Robinson, N. H. *The record of the Royal Society of London: supplement to the fourth edition for the years 1940-1989* (Great Britain: Royal Society), 11, 13.

**Howard Florey** (FRS 1941) was a physiologist. He was born in Australia and moved to England in 1922. Florey was already working on antimicrobial substances when WWII broke out. His work on penicillin moved rapidly in the early years of the war, and after a spell of testing it in the field in North Africa in 1943, it was used widely in the later years of the war to treat war wounds. For this, he received the Nobel Prize for Physiology and Medicine in 1945, joint with Fleming and Chain. Florey never entirely lost his Australian accent and manner and remained emotionally tied to his country of origin, being always keen to foster Anglo-Australian relations, an agenda which he pursued as PRS. Having been a signatory of Andrade's post-war petition, Florey became a very active PRS, because he was eager to avoid the danger of the RS becoming too remote and restricted. He believed that the RS should move into a closer relationship with the government,

As for the earlier post-war period, Rowlinson paints a picture of a 'political dark ages' for the Society. Edgar Adrian's presidency (1950-55), he argues, had been characterised by a similar commitment to independence and insularity as that of Robinson. Adrian had had strong reservations about the proposed move to a single site of British science agencies on the South Bank, because it could compromise the Society's image of independence; he believed that the most important thing for the Society was to be, and be seen to be, impartial.[11]

Commenting in retrospect, Alexander Todd and Patrick Blackett both claimed that the Society was introspective during this period, although they may have had their own motivations for this. Todd (PRS 1975-80) remarked in his anniversary address of 1980 that:

> From 1950 under three successive Presidents the Society gradually lost influence and drifted away from matters of public policy; it became rather introspective and the Presidents were mainly concerned with such problems as accommodation, celebration of the Society's tercentenary and the like.[12]

Todd's motivations may have been threefold. Firstly, he wished to present himself in a comparatively favourable light to Presidents of the past. Secondly, he intended to glorify Dale (his father-in-law) in comparison to the Presidents that

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gave more recognition to the applied sciences, and was instrumental in securing the move to Carlton House Terrace, which took place in 1967. He also became involved in the problem of the emigration of scientists and spent much time on the evidence given to the Trend Committee, arranging many informal meetings over lunch with the Secretaries of the Research Councils and the Chair of the University Grants Committee. During his presidency the Royal Society became more active in the educational field. Abraham E. P. (1971): "Howard Walter Florey. Baron Florey of Adelaide and Marston. 1898-1968", *Biographical Memoirs of Fellows of the Royal Society* **17**, 256, 265-267, 282-283, 285, 291-292.

[11] Rowlinson (1992), 8-9; Hodgkin A. (1979): "Edgar Douglas Adrian, Baron Adrian of Cambridge. 30 November 1889-4 August 1977", *Biographical Memoirs of Fellows of the Royal Society* **25**, 54-58. For more on the Science Centre plans see also Hughes J. (forthcoming): "A New Jerusalem for British science? Government, the Royal Society and postwar London", *British Journal for the History of Science*.

**Edgar Adrian** (FRS 1923) was a physiologist and medical doctor. During WWI he worked on nerve injuries and shell shock in returning soldiers. He won the 1932 Nobel Prize in Physiology and Medicine with Sherrington for their work on the functions of neurons. During WWII, Adrian carried out some research on potential nerve gases, and served as an advisor on such matters as a member of the Chemical Board. He was Foreign Secretary of the RS, 1946-50. Hodgkin (1979), 17, 22, 44, 52, 54-58.

[12] Todd A. (1980): "Address of the President Lord Todd, O.M. at the Anniversary Meeting, 1 December 1980," *Proceedings of the Royal Society of London. Series B, Biological Sciences* **211** (1182), 10-11; Rowlinson (1992), 10.

succeeded him; at the end of Dale's presidency, Todd claimed, the reputation of the Society was extremely high, and their involvement with national policy greater than ever before, but three successive presidents let its influence wane. Thirdly, he was also looking back on this period from his position at that time as Chairman of the Advisory Council on Scientific Policy (ACSP) 1952-64, a body which did not enjoy good relations with the Society.[13]

Blackett (PRS 1965-70) made a similar argument in his anniversary address of 1968. He expressed his disappointment at the neglect of relations with the Empire-Commonwealth following the Society's Empire Scientific Conference in 1946. He suggested that the Society, like the country, "having cast off an empire, became somewhat introspective in the subsequent years and concentrated on its own problems".[14]

Rowlinson also argues that there was a comparative neglect of relations with the Commonwealth from 1946, but attributes it less to introspection than to the fact that the Commonwealth was not a 'natural' space within which to conduct elite or pure science, and partly because, for this reason, the Society focused on cultivating ties with North America and Europe.[15] It is also likely that Blackett's comments were a politically motivated left-wing critique, serving to highlight that the insular nature of the Society had been detrimental to its position. Blackett was both a strong proponent of the social responsibility of scientists and of the Labour Party. He was, for example, involved in shaping a science and technology policy for the Labour Party in opposition during the 1950s and early 60s, which stressed

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[13] Todd (1980), 10-11; Personal communication: Dr. Peter Collins, Director, Royal Society Centre for the History of Science, 10/07/2012; Balmer B., Godwin M., Gregory J. (2009): "The Royal Society and the 'brain drain': Natural scientists meet social science", *Notes and Records of the Royal Society* **63**, 339-42.
**Alexander Todd** (FRS 1942) was a biochemist. He won the Nobel Prize for Chemistry in 1957 for his work on nucleotides and nucleosides. During WWII he was involved in defence research for the Chemical Committee of the Ministry of Supply. He was a member of the ACSP from 1947, becoming Chair in 1952 until 1964 when he preferred to resign rather than clash with Labour policies. He was a member of the Trend Committee and a trustee of the Nuffield Foundation from 1950 into his retirement. Brown D.M., Kornberg H. (2000): "Alexander Robertus Todd, O.M., Baron Todd of Trumpington. 2 October 1907-10 January 1997", *Biographical Memoirs of Fellows of the Royal Society* **46**, 521-22, 528, 530. He was a prominent figure in science policy during the Tory administration. Balmer et al (2009), 340.
[14] Blackett P. M. S. (1969): "Address of the President Professor P.M.S. Blackett, O.M., C.H., at the Anniversary Meeting, 30 November 1968", *Proceedings of the Royal Society of London. Series B*, **171** (1025), 392-393.
[15] Rowlinson (1992), 17.

that disconnect between national affairs and science had caused the 'brain drain'.[16] This issue strongly informed the Society's move towards support of the European Community under Blackett (PRS) and Harold Thompson (Foreign Secretary) in the mid-late 1960s (see chapter 3).

The consensus amongst both historical actors and historians that the Society was introspective during the early post-war years is not completely unchallenged. Phillip Chaston in his 1997 thesis *Gentlemanly professionals within the civil service: Scientists as insiders during the interwar period*, showed that in the interwar period there was a network of 'backroom' influence between Fellows, officials and the civil service.[17] The gentleman's club, the Athenaeum, was a well-known meeting ground for this activity, and Jeff Hughes has recently revealed that, when the Society considered re-locating to a single site of science organisations on the South Bank in the 1950s, proximity to the Athenaeum, was a key criterion in deciding where to be located.[18] Chapter 1 also demonstrated this dynamic showing how the Society's independent status was preserved institutionally and outwardly facing, whilst behind closed doors individuals were quite politically motivated, and Fellows utilised their position to make politically-motivated contacts with politicians and government administrators. The central theme of the following section is that this 'backroom' activity continued over the 'long 1950s', but was largely closed to those of a leftist persuasion, forcing them into an 'outsider' position.

## 2.3 The body politic of the Society

### 2.3.1 Western allies

In the immediate post-war years, Edward Hindle FRS attempted to influence political opinion in France by publicising the activities of the Society for Freedom

[16] Godwin M., Gregory J., Balmer B. (2009): "The Anatomy of the Brain Drain Debate, 1950s-1970s: Witness Seminar", *Contemporary British History* **23** (1), 40-41; Edgerton D. (1996): "The 'White Heat Revisited: The British Government and Technology in the 1960s", *Twentieth Century British History* **7** (1), 53-55; Edgerton D. (2006): *Warfare State: Britain, 1920-1970* (U.K.: Cambridge University Press), 217-219, 230, 238-241.
[17] Chaston P. (Oct 1997): *Gentlemanly professionals within the civil service: Scientists as insiders during the interwar period* (unpublished thesis – The University of Kent at Canterbury).
[18] Hughes J. (2008): "The Royal Society and the New Jerusalem", Paper for the BSHS-HSS-CSHPS Three Societies Meeting, 4-6 July 2008; Hughes (forthcoming).

in Science (SFS) to informal contacts in Paris, hoping to counteract the prominent (left-wing) activities of the "Joliot-Curie and Teissier crowd".[19] An informal network developed at this time that connected Fellows Hindle, George Thomson, Gavin de Beer, Arthur Tansley, Henry Dale, John Baker (FRS 1958), officials in the Information Research Department at the Foreign Office (Ralph Murray, MacLaren and John Peck) and Dr. C.S. Piggot (Scientific Counsellor, American Embassy). This initiative was fostered on the basis of a learned anti-Soviet ideological consensus.[20]

The Information Research Department (IRD) would have been little known at the time; a "semi-secret" department of the Foreign Office, it specialised in producing and disseminating pro-Western propaganda and anti-Soviet counter-propaganda.[21]

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[19] GL Hindle [DC75/D.2] 'Correspondence with J. R. Baker concerning Society for Freedom in Science, 1950-51': Hindle to Baker, 21/02/1950.
Teissier was at the time Head of the Centre National de la Recherche Scientifique (CNRS) in France. GL Hindle [DC75/D.2]: Hindle to Baker, 06/03/1950; Krige J. (2006): *American Hegemony and the Postwar Reconstruction of Science in Europe* (Massachusetts Institute of Technology Press), 94.
**Edward Hindle** (FRS 1942) was a zoologist specialising in infectious diseases. During WWII he was a Commander in the Home Guard and was described as ardently patriotic. He was Scientific Director at the Zoological Society of London, 1944-1951, where he reportedly made drastic changes in policy. Although Hindle could be "abrupt, gruff and blunt", he was very sociable, being involved with many social clubs, and has been described as 'the biologist about town'. According to his biographer, Club life appealed to Hindle because he was "gregarious". Although based predominantly at the University of Glasgow, his "natural habitat seemed to be London", and here his Club of choice was the Athenaeum, where he was "a prominent and much esteemed member". Garnham P. C. C. (1974): "Edward Hindle. 1886-1973", *Biographical Memoirs of Fellows of the Royal Society* **20**, 219, 224, 229-230.
[20] GL Hindle [DC75/D.2]
**Gavin Rylands de Beer** (FRS 1940) was a biologist specialising in embryology. At the outbreak of WWII, he was appointed to a position on the General Staff at the War Office, dealing with military intelligence and propaganda. "Later he was posted to the Psychological Warfare Division of SHAEF as Lieutenant-Colonel, and in May 1944 was placed in charge of psychological warfare in the field at F.M. Montgomery's headquarters. He took part in the Normandy landing, and was thereafter mainly concerned with supervising amplifier and leaflet units. After the German surrender, he took charge of the Control of German Information Services". In peacetime, de Beer became Professor of Embryology at University College London until 1950. He was editor of *Notes and Records*, 1946-51. In 1950 he became Director of the British Museum (Natural History) for ten years. He was reportedly assertive and had wide-ranging interests, which meant that, whilst he could be very entertaining, he could prove a dangerous addition to an academic crowd by straying into their specialisms. Barrington E. J. W. (1973): "Gavin Rylands de Beer. 1899-1972", *Biographical Memoirs of Fellows of the Royal Society* **19**, 67, 74-76, 78, 81-82.
[21]Garton Ash T. (Sep 25 2003): "Orwell's List", *The New York Review of Books* **50** (14), 6-12. Quote on p8.
The IRD appeared in the list of Foreign Office departments but not all of its employees or functions were identified there. Most of its funding came via the "Secret Vote" which was not subject to parliamentary scrutiny. Garton Ash (2003), 8; By the late 1950s, according to an employee of the British intelligence agencies at that time, the IRD had a reputation as "the dirty

British covert wartime propaganda services (the Political Warfare Executive and Special Operations Executive (SOE)) were dismantled early in 1946 and responsibility for this activity was transferred to the Foreign Office. Peacetime propaganda services were seen as the preserve of totalitarian governments, and Britain's initial post-war propaganda policy was simply to project a positive image of Britain abroad.[22] However, this was proving an inadequate defence, as the Soviet Union propaganda machine was highly organised and was specifically targeting British colonies with anti-Western propaganda.[23]

From around 1946 there was a transition towards the idea that a propaganda effort comparable to wartime was needed and officials in the Foreign Office urged Labour's Foreign Secretary, Ernest Bevin, to adopt a more vigorous attitude towards propaganda, with a switch from simply pro-British to counter-Soviet. Subsequently, Bevin established the IRD in 1948 and implemented a co-ordinated approach to counter-propaganda.[24] The IRD aimed to subsidise authors with good credentials on the non-communist left. Bertrand Russell wrote three short publications subsidised by IRD, and they tried unsuccessfully to commission work by George Orwell.[25]

As well as targeting the British Commonwealth with unflattering material about British imperialism, Soviet propaganda focused on splitting the Anglo-American

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tricks department" of the Foreign Office, "indulging in character assassination, false telegrams […] and other such cold war pranks". Garton Ash (2003), 8.

[22] Defty A. (2004): *Britain, America, and Anti-Communist Propaganda 1945-53: The Information Research Department* (Routledge).The Labour Government in Britain dismissed this conundrum more quickly than the USA. Labour felt the need to utilise propaganda to explain socialist policies to a domestic and foreign audience, especially the USA who needed convincing that Britain was not on the road to communism. The post-war expansion of foreign information services also reflected Britain's insecurity about being a declining power. Defty (2004), 28.

[23] Ibid. 26-27, 35; See also, for example, IRD documents such as "Countering Communism in New Zealand" in TNA Information Research Department [FO 1110/ 1054] 'Commonwealth countries: distribution and usage of IRD material in various Commonwealth countries, 1957', plus 'Communism in the Commonwealth' for other years in the FO 1110 series.

[24] Ibid. 26, 37, 41.

[25] Garton Ash (2003), 8.
George Orwell's close friend Celia Kirwan worked at the IRD. In 1949 Orwell declined to write anything for them 'on commission' but suggested several people who might. On request from IRD, he then sent them a copy via Celia of what became known as 'Orwell's list' in May of that year. He asked for it to be returned, fearing claims of libel, but the Department typed up a copy to keep. It was released by Foreign Secretary Jack Straw in 2003. Garton Ash (2003), 6-8; IRD did, however, facilitate a wider circulation for *Animal Farm*, especially in foreign countries under communism or threatened by it, and in "backward" areas of the British Commonwealth. Garton Ash (2003), 8.

bloc.[26] However, Soviet propaganda actually had the effect of fostering further Anglo-American co-operation; the British expansion of intelligence and propaganda services at this time renewed and extended key sections of Britain's allied wartime apparatus (with respect to the USA, and to the exclusion of the Soviet Union).[27] It was in this context that the wartime propaganda machinery connecting Britain and the USA was continued into the Cold War. Indeed, Andrew Defty in *Britain, America, and Anti-Communist Propaganda 1945-53: The Information Research Department* argues that the speed and ease with which this machinery was revived indicated that its dismantling was largely superficial.[28] Indeed, old allied networks and loyalties transcended peacetime restructuring, and many individuals transitioned into post-war roles that utilised skills and contacts gained during their formative World War II (WWII) experience. For instance, the first Head of the IRD, Ralph Murray, had been involved with the SOE and Bletchley Park during WWII, working from 1941 as a member of the Underground Propaganda Committee.[29] In a not dissimilar manner, networks were also established during WWII between Fellows, Foreign Office officials and the defence services. For instance, Harrie Massey's employment on the Skylark rocket project in the 1950s (see section 2.4) transpired due to his wartime work on the Manhattan Project, and de Beer's wartime experience of working in psychological warfare, propaganda and military intelligence, would most likely have connected him to individuals employed in post-war propaganda services (see footnote 20).[30]

The informal network that developed between Fellows, two subsequent Heads of the IRD and the American Scientific Counsellor, was an association of pro-Western allies. It was through this network that the Foreign Office passed some

[26] Defty (2004), 35-36.
[27] The IRD had close links to MI5 (in fact they were neighbours in Carlton House Terrace, to where the Society would eventually move). For example, see: TNA Security Service [KV2/3239] 'Burhop. Dr. Eric Henry Stoneley': item 498a "World Federation of Scientific Workers" Anon. to Miss E. M. Westwood (FO), 27/05/1958, copied to MI6. The letter reported that the IRD may be interested to know the movements of Professor Biquard; item 440z "Extract from IRD's Directory of International Communist Front Organisations, part III, mentioning Burhop", 18/12/1956.
[28] Defty (2004), 29-30.
[29] Godwin M. (2007): *The Skylark Rocket: British Space Science and the European Space Research Organisation 1957-1972* (Paris: Beauchesne), 43. The war years were important for forming networks between scientists and introducing them to working directly for the military. Garton Ash (2003), 8.
[30] Godwin (2007), 49.

damning documents on Soviet science to Baker, which were subsequently published as SFS *Occasional Pamphlet No.10.*[31] This publication and others in the series were covertly financed by the IRD, an arrangement that involved Hindle (a zoological colleague of Baker's) as a financial intermediary between the Foreign Office and Baker. These ties were sustained through mutual goals to publicise anti-Soviet propaganda and to extend and encourage pro-Western sentiments across the world. They were even sustained through changes in office in January 1951 when Murray was posted abroad and replaced as Head of the department by John Peck.[32]

Informality appeared to be the key driver and ongoing feature of this network. Fellows and government officials often met over lunch or dinner in a personal capacity. Chaston's thesis on the Society and the Athenaeum suggests that this kind of activity was longstanding.[33] Indeed, Hindle at this time was using the Athenaeum as his main postal address, to which Peck would send him the anti-communist material.[34] Hindle's correspondence also reveals the Athenaeum as a key meeting place.[35] Unfortunately, the informal nature of this activity also serves to give it near invisibility in the historical record. Candid discussion of this behaviour, even in personal correspondence, was relatively rare. Therefore, where it does exist it is worth quoting at length. Here, the dynamic is illustrated rather well in a letter from Hindle (FRS) to Murray (IRD) on 30 June 1950:

> I acknowledge receipt of these two new translations which are certainly very good examples of the extraordinary mentality which seems to have grown up on the other side of the "iron curtain". I heard from Baker about a fortnight ago to the effect that he was just starting examining in Finals at Oxford and would not be able to deal with the matter for a week or so. However, I was dining with Sir George

[31] GL Hindle [DC75/D.2]
[32] GL Hindle [DC75/D.2]; Defty (2004), 'Plates' (no page no.) Ralph Murray was Head of IRD, 1948-51. John Peck was Head of IRD, 1951-54. Peck was succeeded by John Rennie who later became Head of MI6. For more on Rennie, see chapter 3.
[33] Chaston (1997).
[34] GL Hindle [DC75/D.2]: Peck to Hindle, 13/04/1951; Hindle to Peck, 18/04/1951.
[35] For example, see GL Hindle [DC75/D.2]: Hindle to Baker, 06/03/1950; Baker to Hindle, 08/03/1950. In this instance, Hindle met with Verne, the General Secretary of the French Association for the Advancement of Science at the Athenaeum to discuss the possibility of setting up a 'SFS' or equivalent organisation in France.

> Thomson last night and arranged to send him a duplicate set of the papers, including those which have just arrived. I am also writing again to Baker today and sending him a copy of the new translations, and have emphasised that some action should be taken at as early a date as possible, and I will let you know the result. Meanwhile, I shall be seeing one of my French colleagues in Stockholm next week, and will try and find out the present feeling in Paris.[36]

This letter also shows the informal manner in which the IRD operated.

The IRD archives reveal that they had a similar relationship at this time with a number of other scientists (many of them Fellows), as shown by the names on IRD mailing lists for receiving regular batches of translations from the Soviet press that showed Soviet science in a bad light.[37]

The mailing list included prominent scientists (Fellows and later Fellows) known to be right-wing, such as Churchill's scientific advisor, Lord Cherwell (aka Frederick Lindemann (FRS 1954)), and others linked to anti-communist networks, such as Hindle (FRS 1942) and de Beer (FRS 1940). However, there were others associated with the (moderate) left such as Julian Huxley (FRS 1938), Eric Ashby (FRS 1963), C.D. Darlington (FRS 1941) and Bertrand Russell (FRS 1908).[38] A

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[36] GL Hindle [DC75/D.2]: Hindle to Murray (FO), 30/06/1950.

[37] TNA Information Research Department [FO 1110/381] 'Scientific material for distribution, 1951'; [FO 1110/759] 'Scientific material for distribution' (1955). The lists mainly consisted of academics, but also included editors and others.

[38] TNA Information Research Department [FO 1110/381]: The mailing list: C.F. Maclaren, 14/03/1951. Distributed April 1951.
However, Harman (2003) describes Darlington's "idiosyncratic" politics as being situated "squarely in neither camp", because, although he was a champion of the planning of science (a left-wing doctrine), he was also an outspoken racialist and biological determinist (sentiments associated with the political right). Harman, O.S. (2003): "C.D. Darlington and the British and American Reaction to Lysenko and the Soviet Conception of Science", *Journal of the History of Biology* **36** (2), 310.
**Bertrand Russell** (FRS 1908) was a mathematician, philosopher and social critic. He was openly opposed to Britain's involvement in WWI and was jailed in 1918 for 'disaffecting the troops'. He emigrated to America in 1939, returning in 1944. He was awarded the Nobel Prize for Literature in 1950. In the late 1940s he advocated threatening Soviet Russia with an atomic attack, but later he was a prominent supporter of nuclear disarmament after East and West had both acquired nuclear weapons. This attitude was expressed in the 1955 'Einstein–Russell manifesto' which called upon the world scientific community to recognise the futility of attempting to 'win' a nuclear war. This statement led to the establishment of the Pugwash movement of scientists, of which Russell became President. He came to believe that more direct action was necessary, and subsequently founded the Campaign for Nuclear Disarmament in 1958. In 1960, Russell formed the radical 'Committee of 100' with Ralph Schoenman, which advocated civil disobedience to change the British government's policy on nuclear weapons. In connection with their activities, he was

positive correlation between these leftist names and those taking an active interest in the Lysenko Affair may partly account for this. The Lysenko Affair was seemingly a gift for anti-Soviet propaganda and was publicised by the IRD. Darlington had become increasingly disillusioned with Soviet-style Marxism from the late 1930s and took a hard stance against Lysenkoist biology. Huxley and Ashby migrated to an anti-Soviet stance during the Affair.[39]

The mailing list also included those who had not been strongly associated with either side, but were insiders in military-scientific circles, having held important positions during WWII, such as Henry Tizard (FRS 1926), R.V. Jones (FRS 1965) and James Chadwick (FRS 1927).[40] In addition, it featured those who were very politically engaged but not defined by a particular strand of politics, such as 'Percy' Andrade (FRS 1935).[41] The name of Sir Robert Robinson (PRS 1945-50) appeared on an attached document as a potential recipient.[42]

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imprisoned again in 1961 for two months. Kreisel G. (1973): "Bertrand Arthur William Russell, Earl Russell. 1872-1970", *Biographical Memoirs of Fellows of the Royal Society* **19**, 587-590; Monk R. "Russell, Bertrand Arthur William, third Earl Russell (1872-1970)", *Oxford Dictionary of National Biography*.

[39] Harman (2003), 314-315, 319, 325, 328-329.

[40] **Tizard** was also receiving his IRD material at the Athenaeum. See page 124 and footnote 100 for discussion of some of Tizard's war-related work.
During WWII, **R.V. Jones** worked for the Secret Intelligence Services (later MI6), a position he obtained through his doctoral tutor, Frederick Lindemann (a close associate of Churchill).
Although he had no specific affiliations with Conservative organisations, Goodchild (2013) claims that he was conservative in his political outlook, mixed in Conservative circles, and only worked officially as a civil servant when there was a Conservative government in power. He is also the author of Churchill's Biographical Memoir of the Royal Society. Goodchild J. (2013): 'R.V. Jones and the Birth of Scientific Intelligence', draft thesis, University of Exeter.
For the majority of the interwar period, **Chadwick** worked under Rutherford at the Cavendish laboratory. It was here that he discovered the neutron in 1932, for which he was awarded the Nobel Prize in 1935. During WWII he worked closely on the development of the atomic bomb, being co-ordinator of the experimental programme for the Maud Committee, and later being a key figure in the Manhattan Project. During the early post-war period he spent much time trying to retain the momentum in Anglo-American co-operation in atomic energy as co-operation began to weaken. In 1948 he was appointed Chairman of the Atomic Energy Subcommittee of the ACSP and played a central role in developing atomic capability in Britain. Having failed to secure Lord Cherwell a place on this committee, when Cherwell came back into a position of power under Churchill's Government in 1951, he established the Atomic Energy Authority, and Chadwick became a board member until 1961. He considered the Conservative Party victory in 1970 as a "pleasant surprise". Feather N., Massey H. (1976): "James Chadwick. 20 October 1891 - 24 July 1974", *Biographical Memoirs of Fellows of the Royal Society* **22**, 14, 16, 20, 25, 27, 31, 37, 41-42, 67.

[41] The other Fellows on the 1951 list were J. W. Cook (FRS 1938), H.J. Emeleus (FRS 1946), A.M. Tyndall (FRS 1933), Nevill Mott (FRS 1936), Harold Thompson (FRS 1946, Foreign Secretary 1965-71) and Charles Darwin (FRS 1922). For Andrade's politics see chapter 1, footnote 108.

[42] TNA Information Research Department [FO 1110/381]: C.F. Maclaren, 14/03/1951, distributed April 1951.

An updated IRD mailing list in 1955 included others known to be right-wing, such as J.R. Baker (FRS 1958), plus those linked to anti-communist networks, including Henry Dale (PRS 1940-45) and George Thomson (FRS 1930), John Cockcroft (FRS 1936) who was an insider in military-scientific circles, as Director at Harwell[43], and Lord Adrian (FRS 1923, PRS 1950-55), the incumbent PRS.[44]

Although it is not clear whether the recipients of the anti-Soviet material were aware of the function or the existence of the IRD, what is significant about the mailing list is that it featured Royal Society Establishment figures, notably the three Presidents who served between 1940 and '55 and many older Fellows.[45] Fellows represented 52% of the 1951 mailing list and 35% of the 1955 list, which had almost doubled in size during that time.[46]

The material circulated consisted mainly of translations of articles from the communist press, predominantly Soviet, including *Pravda*, the mouthpiece of communist leadership.[47] The aim seems to have been to reinforce the claim that political considerations had come to determine the course and content of scientific work in Soviet Russia. Soviet scientists, explained an IRD internal briefing, had to

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[43] **John Cockcroft** won the 1951 Nobel Prize in Physics joint with Ernest Walton for his work on the atomic nucleus. Following the outbreak of WWII, he played an instrumental role in the radar research programme. In 1940 he went on the 'Tizard mission' to the USA to establish co-operation in scientific defence matters. During the war he also played an advisory role in the development of the atomic bomb, being a member of the Maud Committee and from 1944 headed the Canadian arm of the Manhattan Project at Montreal. In peacetime he returned to Britain to head Britain's atomic energy programme as Director at what became known as Harwell until 1958. Here he oversaw the development of Britain's nuclear deterrent and thermonuclear research. Concomitantly, he was a member of the government's Atomic Energy Council. He was Chairman of the government's Defence Research Policy Committee and Scientific Advisor to the Ministry of Defence, 1952-54. From 1954 he was also Member for Research at UKAEA until1959. He had a hatred for war, and perhaps surprisingly, favoured nuclear disarmament. In 1946 he became Vice-President of the Atomic Scientists' Association and made substantial contributions to the Pugwash Conferences on Science and World Affairs, becoming its President in 1967. Oliphant M.L.E., Penney, Lord. (1968): "John Douglas Cockcroft. 1897-1967", *Biographical Memoirs of Fellows of the Royal Society* **14**, 140-141, 151, 155-156, 161-164, 170-173, 180-181.

[44] TNA Information Research Department [FO 1110/759] 'Translations of scientific material from the Soviet press: distribution and related correspondence, 1955': The mailing list: J. M Turner 14/01/1955; 12/01/1955. Despatched 03/02/1955.
Other Fellows on the 1955 list were Andrew McCance (FRS 1943) and Sydney Chapman (FRS 1919).

[45] 15 of the 25 FRSs (60%) featured in either edition of the mailing list were elected pre-WWII, the rest being elected during (4) and post-war (6).

[46] These percentages would be adjusted to 62.07% and 40.74% respectively if you included soon-to-be Fellows.

[47] TNA Information Research Department [FO 1110/381] *Pravda* No. 222, "Raise the role of party organisations in scientific institutions", 10/08/1950.

be able to demonstrate that their work conformed to the dialectical materialist worldview as expounded by Marx, Lenin and Stalin.[48] For instance, an article from *Pravda* by Academician Lysenko on Michurinist plant genetics, read:

> Dialectical materialism, developed and raised to a new level by Comrade Stalin's teaching, is for Soviet biologists and Michurinists the most valuable and powerful theoretical weapon for solving profound biological problems, including the problem of the origin of species [...].[49]

An article from *Red Star* in the 1955 batch of translations from Soviet sources, announced the USSR's intention to utilise atomic power for peaceful purposes, in a new electrical power station. It referred to the Soviet state's "persistent struggle" to ban atomic and hydrogen weapons, a policy negated by the actions of the "aggressive circles of the imperialist [Western] states".[50]

This Soviet rhetoric of peace and atomic disarmament was designed to highlight the warmongering nature of NATO and the Western powers. Many Western scientists, including those who worked on the Manhattan Project, also advocated atomic disarmament and rapprochement with the Soviet Union during this period and beyond. The 'peace campaign', or 'World Peace Movement' as it became known, proved particularly popular with left-wing scientists, due to its association with anti-imperialist and pacifist sentiments, and helped foster an emerging discourse on the social responsibility of the scientist. Its resonance with Soviet-funded organisations blurred the boundaries for the peace movement, and both IRD and MI5 officers reported that peace-related organisations were subversive communist front organisations, infiltrated by Soviet agents.[51]

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[48] TNA Information Research Department [FO 1110/381]: "Suggested frame-work of discussion on the position of the scientist in the Soviet Union", 18/06/1950.
[49] TNA Information Research Department [FO 1110/381] *Pravda* No. 307, "New factors in the science of biological species, by Academ. Lysenko", 03/11/1950. Quote on pp 2-3.
[50] TNA Information Research Department [FO 1110/759]: *Red Star* "Atomic weapons and anti-atomic defence, by B. Olisov, Professor, Doctor of Technical Sciences", 03/08/1954.
[51] For example, see TNA Security Service [KV2/3239]: item 482c "World Federation of Scientific Workers: Current Developments", 17/12/1957; TNA Information Research Department [FO1110/521] 'World Peace Movement (WPC) and World Federation of Scientific Workers (WFSW): delegates to meetings in UK: British Trade Union delegation visit to Hungary (1952)': "Entry into the United Kingdom of Delegates to a Meeting of the Executive Council of the World Federation of Scientific Workers", 10/03/1952; "Brief on C(52) 85, World Peace Movement:

The Soviet-funded World Peace Council (WPC), of which J.D. Bernal had been Vice-President since its inception in 1949, and its counterpart the British Peace Committee, were denounced by some as organs of Soviet propaganda, due to their insistence that warmongering was unique to the Western powers and peace was somehow the preserve of the Soviet bloc.[52] The hypocritical nature of the Soviet position on peace was frequently challenged. By the mid-1950s, non-aligned peace organisations were beginning to emerge. They pointed out that the USSR posed as much of a nuclear threat to the world as the USA. This angered the WPC and later, around 1963, Bernal warned Nikita Krushchev (then Premier of the Soviet Union) that the 'non-aligned' peace groups were really anti-Soviet. At times the distinction between non-aligned and Soviet-funded groups was marked, and Bernal's association with the WPC and World Federation of Scientific Workers (WFSW) effectively prohibited his membership of Pugwash.[53]

### 2.3.2 Fellow-travellers

As a result of the association between peace and Soviet propaganda, some left-wing scientists who advocated nuclear disarmament found themselves excluded from government policy networks and classified research, and found restrictions on their international travel. During Cabinet's first attempt, in 1952, to formulate a regular policy on admittance into Britain of those associated with the World Peace Movement, the IRD reported that:

> The activities of many of the members of the Executive Council of the WFSW have made it clear that its interest in science is subordinated to serving the general interests of the Communist-controlled organisations and furthering the objectives of the 'peace campaign'.[54]

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Admission of Foreigners to Meetings Held in the United Kingdom" + "C (52) 85, Cabinet, World Peace Movement: Admission of Foreigners to Meetings Held in the United Kingdom, Memorandum by the Home Secretary", 26/03/1952.

[52] Brown A. (2005): *J.D. Bernal: The Sage of Science* (USA: Oxford University Press), 414-415. Bernal was Vice-President 1949-58, and from 1958 was President in function but not name.

[53] Ibid. 114, 422, 428.

[54] TNA Information Research Department [FO1110/521]: "Exclusion from the UK of Members of the Executive Council of the World Federation of Scientific Workers".

A number of these scientists, many of them Fellows, were being monitored by MI5 during these peak Cold War years.[55] Some of them, such as Patrick Blackett, were not considered a security risk in themselves, but moved in left-wing social circles, and this raised sufficient concern that sensitive information could be learned from them by Soviet agents or communists. In fact, Blackett's file was cross-referenced to those of a number of other, more suspect scientists, such as Bruno Pontecorvo and Joseph Astbury, who were suspected Soviet intelligence agents, and Thomas Kaiser who was a communist sympathiser.[56] Blackett's criticisms of nuclear policy and military strategy, which many of his colleagues considered anti-American, served to exclude him from inner advisory circles until the early to mid-1960s, when his views on nuclear disarmament had made their way into debates in mainstream international politics.[57]

Blackett and Bernal were both openly associated with organisations believed to be communist-infiltrated or communist front organisations, such as the WFSW, which was blacklisted by the British government.[58] In addition to his association with the WPC, Bernal was also a major player in establishing the Science for

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[55] Other Fellows being monitored by MI5 included J.B.S. Haldane [KV2/1832] (1928-40), Solly Zuckerman [KV2/ 3030-3031] (1937-58), Dorothy Hodgkin [KV2/3680-3685] (1936-60), and Frederic Joliot-Curie, Foreign FRS [KV2/3686-3688] (1937-60).

[56] Bruno Maximovitch Pontecorvo (Italian, British, Russian) was employed on atomic projects in North America and then at the Atomic Energy Research Establishment at Harwell in the UK. He defected to the USSR in 1950 following a holiday in Italy with his family. TNA Security Service [KV2/1892] Record Summary; Joseph Peter Astbury (British) studied at Cambridge and joined the Communist Party in the 1930s. He worked under Blackett at Manchester University on atomic energy, and researched cosmic rays at the Jungfrau High Altitude Laboratory in Switzerland. He was known to be passing information to Springhall, knowing that he was working for the Russians. TNA Security Service [KV2/2884] Record Summary; Thomas Reeve Kaiser (Australian) studied nuclear physics at Oxford. His communist activities led to the withdrawal of his scholarship and he returned to Australia in 1949. However, he returned to the UK in 1950 to work for Blackett at Manchester University and resumed his Party activity. He was later named by the Soviet defector Vladimir Petrov, as being of interest to the KGB in 1948 as a potential Soviet agent. TNA Security Service [KV2/3240] Record Summary; TNA Security Service [KV2/3236]: item 296a, telegram from S.L.O. Australia, 28/05/1954; item 299a, to Foreign Office, copied to Commonwealth Relations Office, 23/06/1954; item 306c, to Director, G.C.H.Q., 29/06/1954; item 310z, 13/07/1954.

[57] Nye M. J. (2004): *Blackett: Physics, War, and Politics in the Twentieth Century* (USA: Harvard University Press), 90-99.

[58] Jones (1988), 93-94. The WFSW was set up with the help of the British AScW in 1946. Its overall aims were to protect the rights of scientific workers and ensure that science was used for constructive, peaceful purposes; WFSW was set up under Joliot (fFRS 1946, died 1958), Langevin (fFRS, died 1946) and Bernal, with the aim of securing effective planning and peaceful application of science, as well as good working conditions for scientists. RS Thompson [HWT 36/ C.81] 'Council for Scientific Policy': "UK Participation in international collaboration in science at governmental and non-governmental levels" by E.H.S. Burhop, 1970, p25; Burhop (1976): "Genuine passion for research", *Nature* **262**, 727-728.

Peace conferences which had a left-wing, pro-Soviet reputation.[59] Leading members of these organisations often found restrictions on their travel and many participants were refused entry to Britain.[60] In June 1945 Bernal and Blackett were refused exit visas to join a Society delegation to the Soviet Academy of Sciences, because of their involvement in secret wartime projects and their left-wing sympathies.[61] Although Blackett and Bernal's activities continued to warrant close monitoring, this was said to be precautionary, and their files were closed in 1959 and 1953 respectively.[62]

Harrie Massey (FRS 1940) however, was a slightly different case.[63] In 1951 the alarm was raised by the American authorities that in 1945 one of the Australian atomic scientists employed on the Manhattan Project had disclosed secret information on the technical set-up of the project to a member of the Communist Party in New York. To confuse matters for MI5, all of the Australian scientists, including Massey, had worked together in one research group under Professor Oliphant, known as the 'Oliphant' group.[64] However, Massey's friend, colleague,

[59] The foundation of the WFSW in 1946 led to the establishment of a National Committee of Science for Peace in Britain under the aegis of Bernal. It held a series of conferences on the need for atomic disarmament. Participants including Born, Orr and Lonsdale demonstrated the capacity of the conference to attract the non-communist Left. However, *Science for Peace* never achieved its aim of mobilising a broad section of liberal and left wing individuals against nuclear weapons. Jones (1988), 93-94.

[60] Jones (1988), 93-94.

[61] TNA Prime Minister's Office [PREM 3/139/7] 'Visit to Soviet Union by Professors Bernal, Mott and Norrish June 1945'.

[62] TNA Security Service [KV2/3219] 'Blackett. Patrick Maynard Stuart'; [KV2/1814] 'Bernal, John Desmond'.

[63] **Harrie Massey** (FRS 1940) was an Australian physicist. He moved to Cambridge in 1929 to work at the Cavendish Laboratory. At the outbreak of WWII, Massey accepted an appointment at the Admiralty to work on mine and anti-mine warfare. In 1943 Massey was appointed to lead the theorists at the Berkeley arm of the Manhattan Project on the separation of Uranium[235]. He was one of six British scientists who met in Washington in 1944-45 to discuss the future organization of nuclear research in the United Kingdom. In peacetime, Massey returned to University College London, to the Mathematics Department, where he was responsible for hiring Eric Burhop, and in 1950 he moved to the Physics Department. Through the UCL Physics Department, he had connections and collaborations with the AERE (Harwell). He was Chairman of the Society's Gassiot Committee, and concomitantly a key figure in the Skylark project and the IGY. In 1959 he became Chair of the Society's British National Committee on Space Research. He continued to play a central role in British space research and was pivotal in establishing the European Space Research Organisation. His close involvement with space policy diminished with his appointment as Chair of the Council for Scientific Policy, 1965-69. For Massey's later career, see chapter 3. Bates D., Boyd R. (1984): "Harrie Stewart Wilson Massey. 16 May 1908-27 November 1983", *Biographical Memoirs of Fellows of the Royal Society* **30**, 451, 454-461, 487-488, 490-491.

[64] The other scientists in the Oliphant group were George Page, Robert Rutherford Nimmo, Robert Martin Williams, Philip Percy Starling, William Douglas Allen, Marcus Lawrence Elwin Oliphant, Maurice Hugh Frederick Wilkins. Several of these were actually New Zealanders but it was

and fellow Australian, Eric Burhop (FRS 1963), was quickly identified as the most likely candidate of the nine Australian physicists employed on the project.[65] Burhop's association with many peace-related initiatives was a key cause of suspicion. On one occasion MI5 caught wind of his plans to attend a conference in the Soviet Union, prompting the Home Office to confiscate his passport. Coming in the wake of Pontecorvo's defection to the Soviet Union in 1950, and Klaus Fuchs' conviction in the same year for having passed restricted information to Soviet agents, it was a pertinent issue. Simone Turchetti, in his recent study of Pontecorvo's defection, argues that the Fuchs case provoked a step change in security management in Europe, initiating an approach to communism that rivalled the Americans', where it had previously been more relaxed.[66]

The confiscation of Burhop's passport led to a prominent media storm with Burhop highlighting the paradox of such actions in the 'free West'.[67] This incident coincided with MI5's decision that Burhop was too openly communist as to warrant suspicion as a Soviet agent or informer. As a result, observations of Burhop were scaled down in 1952 and MI5 started to reconsider the other Oliphant scientists more carefully.[68]

Massey was at the time working at the UK Atomic Energy Authority (UKAEA), which caused concern for MI5 officers, due to his access to confidential

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suggested that the source might not have been able to distinguish between the two accents. MI5 considered taking Allen and/or Starling into their confidence as both were regarded as "reliable". [KV2/3235] Item 277a, "Proposals for further action in the investigation of the alleged leakage from the Australian group of atomic physicists in the United States, 1943-45", 13/04/1953.

[65] TNA Security Service [KV2/3228] Minute sheet 17/05/1951; [KV2/3235]: item 282a, J.A. Cimperman, Legal Attache, American Embassy, London to David L. Stewart, 07/05/1953. Despite initial suspicions of Massey, he was soon ruled out in the early stages as a security risk. TNA Security Service [KV2/3230-3231].

[66] Turchetti S. (2012): *The Pontecorvo Affair: A Cold War Defection and Nuclear Physics* (Chicago: University of Chicago Press), 86-87.
Pontecorvo was the first (and only) scientist employed on wartime nuclear projects to cross the iron curtain in the 1950s. "The defection was planned and executed by prominent peace campaigners in Italy." German émigré Klaus Fuchs was convicted in Britain in February 1950 for having passed restricted information to Soviet agents since 1942. Turchetti (2012), 3, 8, 86-87.

[67] See especially TNA Security Service [KV2/3229-3230] for passport incident and coverage in the press, especially [KV2/3230]: items 139a, 142a, 145a.

[68] TNA Security Service [KV2/3228-3235] – [KV2/3235]: Minute sheet, A.F. Burbidge, 30/12/1952; item 276BA, Director General to S.L.O. Australia, 23/03/1953; item 280a, Sir Percy Sillitoe to Commissioner L.H. Nicholson, Royal Canadian Mounted Police, Ottowa, 27/04/1953; item 279a, to D.L. Stewart to Mr Thistlethwaite, 21/04/1953. Item 277b, J.C. Robertson to J.A. Cimperman, American Embassy, 13/04/1953; item 277a "Proposals for further action in the investigation of the alleged leakage from the Australian group of atomic physicists in the Unites States, 1943-45".

information. A number of factors implicated Massey as the potential informant. Firstly, the fact that information gained in May 1953 from the American security services, claimed that the suspect in the Oliphant group was in the USA in 1943, '44 *and* '45, which meant that, if true, it could only be Massey or Oliphant.[69] Secondly, he had been known to be in touch with a Russian intelligence officer, also known to Burhop, whose overt function was as head of Soviet publications in Britain. Thirdly, his association with Burhop, a known communist, whom he had personally recommended for the Manhattan Project.[70] Although sources on Massey reported that he had only "ordinary leftish opinions", another source said that Massey was weak, and easily led, especially by Burhop.[71]

However, there was soon a new twist. In 1954 a former Soviet agent, Vladimir Petrov, defected to the West, and named Burhop among those people being considered in 1948 as potential agents by the Russian Intelligence Service (RIS). On resuming observations, MI5 officers found Burhop to be meeting up with known Russian intelligence officers and acting much more suspiciously than before, arousing concern that he might be planning to defect to the Soviet Union during a trip to Europe. In the event, Burhop remained in Britain, and continued to take a public stance against infringements of civil liberties in the West (see chapter 5).[72]

Burhop was never confirmed to be the source of the leak on the Manhattan Project. Nevertheless, following the revelations about Burhop, and further character references compiled on Massey, the security case against Massey was considered

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[69] 3235 item 281a, D.L. Stewart to J.A. Cimperman, American Embassy, 05/05/1953.

[70] See TNA Security Service [KV2/3238]: especially item 418, C.P.C. de Wesselow to P.H.M. Brightling, Ministry of Supply, 23/03/1956; item 415b, Kenneth Morton Evans, Chief Security Officer, UKAEA, to 'Peter' de Wesselow, 05/03/1956. [KV2/3231]: item 173a, 'Director General' to G.T.D. Patterson, British Embassy, Washington, 20/08/1951.

[71] TNA Security Service [KV2/3235]: item 290a, "Ext. from letter from Ministry of Supply re. Massey ment. Burhop", 08/09/1953; Minute sheet, C.A.G. Simkins, 07/01/1953.

[72] See especially TNA Security Service [KV2/3236]: item 296a, telegram from S.L.O. Australia, 28/05/1954; item 299a, to Foreign Office, copied to Commonwealth Relations Office, 23/06/1954; item 306c, to Director, G.C.H.Q., 29/06/1954; item 310z, 13/07/1954; item 317a, 03/08/1954; Minute sheet; item 358a, J.C. Robertson to Cimperman, American Embassy, 15/02/1955 + enclosure, "Eric Henry Stoneley Burhop", 14/02/1955.
In Burhop's file in particular, sources (ie informants) were often mentioned, many in scientific circles, although their identities were fiercely protected. At least one regular informant on Burhop was a card-holding member of the Communist Party, was on the Science Committee of the Communist Party, and attended many science-related meetings, including those of the Communist National Science Advisory Committee. See especially TNA Security Service [KV2/3237]: items 378b, 368a; [KV2/ 3238]: item 402a; [KV2/3239]: item 477b, 1957.

to be very weak. However, he remained a concern primarily due to his personal and professional relationship with Burhop. They were considered to be working "hand in glove" in scientific matters at University College London and there remained the potential that Massey could inadvertently pass on sensitive information. A character reference, sourced from Sir James Chadwick, reiterated earlier claims that Massey was easily led by Burhop.[73] For this reason, MI5 recommended to UKAEA that Massey's security clearance for classified defence information not be increased beyond 'confidential'.[74]

Burhop's MI5 file ends abruptly in 1958. One possible reason is that from the mid-1950s the concern over atomic secrets being leaked to the Soviet Union lost its urgency. Certainly, MI5 officers became less concerned about Burhop's ability to pass on sensitive information to the Soviets as time went by, especially since he had not been employed on sensitive research projects since the war.[75] From the mid-late 1950s, the preoccupation with keeping atomic secrets weakened, especially with the explosion of the Soviet hydrogen bomb and the launch of the Sputnik satellites. Both of these events took the West by surprise and indicated that the USSR was equally matched, if not superior in their scientific knowledge and technological capabilities.

## 2.4 Nationalism and internationalism: the International Geophysical Year (IGY)

The International Geophysical Year (IGY) was the name given to the international co-operative scientific programme which took place between 1 July 1957 and 31 December 1958, a programme to co-ordinate scientific surveillance of the Earth during a period of pronounced solar activity.[76] The IGY, coinciding as it did with

[73] TNA Security Service [KV2/3239]: item 448z "Extract from Report of Interview with Professor Harrie Stewart Wilson Massey, contact of known Communists, forwarded by the U.K. Atomic Energy Authority, mentioning Burhop", 06/03/1957; item 506a, Anon. to D. J. McCarthy, Ministry of Supply, 17/07/1958.
[74] See TNA Security Service [KV2/3238]: item 415b, Kenneth Morton Evans, Chief Security Officer, UKAEA, to 'Peter' de Wesselow, 05/03/1956; item 418, C.P.C. de Wesselow to P.H.M. Brightling, Ministry of Supply, 23/03/1956.
[75] TNA Security Service [KV2/3239]: especially item 465a, to 'C', 29/07/1957; item 474a, to S.L.O. Australia, 01/10/1957.
[76] Godwin (2007), 18.

the launch of the Soviet Sputnik satellites, revealed the tension between nationalist and internationalist sentiments in world science in general, and of the Society's place within it.

The IGY was first proposed as an Anglo-American initiative in 1950. The British contribution to the IGY was coordinated by the Royal Society via the British National Committee for the IGY.[77] In 1955 the USA announced their intention to put the first satellite into orbit during the IGY. This caused a stir in the British press, which wanted to know what the British contribution to the IGY would be. These initiatives prompted the Society to discuss the possible use of satellites, but at the time there was little interest from the British government for financing such a project. As it happened, Britain had an ongoing military-scientific project related to the study of the upper atmosphere, which could contribute to IGY objectives. The Skylark rocket (a small rocket designed to carry scientific experiments into the upper atmosphere) was developed through close co-operation between the defence services, the Ministry of Supply and the Royal Society's Gassiot Committee on meteorological science.[78] However, it was a confidential project at the time of the USA satellite announcement.[79] The project was made public shortly after, and Skylark was ready to launch in June 1957, in time for the IGY, though this was probably by coincidence rather than design.[80]

In September 1956, the USSR also announced their intention to launch a satellite during the IGY. The successful launch of Sputnik I in October 1957 took world science by surprise, and sent the USA into a frenzy. Matthew Godwin in his recent book *The Skylark Rocket: British Space Science and the European Space Research Organisation 1957-1972* argues that the UK response to the launch of the Sputniks was much more measured than in the USA because satellites were not being viewed with great enthusiasm at the time by the British Government and many scientists. It was not until the following year that the Society became

[77] Ibid. 50.
[78] The Gassiot Committee on meteorological science was originally established in 1871 to oversee the running of the Kew Observatory. Pounds K. (2010): "The Royal Society's formative role in UK space research", *Notes and Records of the Royal Society* **64**, 66.
[79] This is an example of a space-related project that was not shared with the Americans, or NATO.
[80] Godwin (2007), 50-52.

significantly interested in the prospect of a domestic satellite and began to lobby the government for funds.[81]

The Society's role as co-ordinator of the British contribution to the IGY fitted well with its other work in international scientific relations. Contemporary literature produced by the Society either ignored political undercurrents or obscured them by invoking the universalist and internationalist characteristic of the Society.[82] For instance, Sydney Chapman FRS (President of the international committee responsible for planning the IGY) described the IGY in a Society circular as "the greatest example of world wide scientific co-operation in the history of our race".[83] However, as Allan Needell argues in *Science, Cold War, and the American State*, as the idea of the IGY gained momentum during the 1950s, political, intelligence and scientific motivations coalesced in the development of the project.[84] Even the design of the programme mirrored the Cold War geopolitical landscape, with the three major World Data Centers (WDCs) for the project being stationed in the USA, the USSR and Western Europe, which was at odds with the idea that the Centers exemplified the ideals of scientific internationalism.[85] Indeed, the vast majority of the data held in the WDCs was later transferred to national data centres, many of which were military.[86]

Some later commentaries on the Society's involvement in the IGY mobilised it for political ends, in order to demonstrate the Society's utility to government. For instance, Assistant Secretary, David Martin's paper 'Scientific Progress and Foreign Policy', which he prepared for the Foreign Office in 1961, mentioned how the success of international scientific co-operation during the IGY had laid

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[81] Ibid. 50-52.
[82] RS Publications [Box 1957]: Royal Society (1958): *British National Committee for the IGY: UK progress report on IGY observations* (London: Royal Society); RS Publications [Box 1960]: Royal Society (1958): *Year Book of the Royal Society 1958* (London: Royal Society), 211-213.
[83] GH Anon. (27 June 1957): "The International Geophysical Year" (The Royal Society), 1.
[84] Needell A. A. (2000): *Science, Cold War, and the American State: Lloyd V. Berkner and the Balance of Professional Ideals* (Amsterdam: Harwood Academic Publishers), 301, 308, 316-317.
[85] Aronova E. et al (2010): "Big Science and Big Data in Biology: From the International Geophysical Year through the International Biological Program to the Long Term Ecological Research (LTER) Network, 1957–Present", *Historical Studies in the Natural Sciences* **40** (2), 194; Crane D. (1971): "Transnational Networks in Basic Science", *International Organization* **25** (3), 585-601.
[86] Aronova et al (2010), 211 footnote 114.

the groundwork for the Antarctic Treaty (signed by twelve countries in 1959), which was designed to put aside military ambitions in order to provide a neutral space for science.[87] Yet, he also stressed the utility of the Society to *national* and strategic goals by pointing out that, due to the Society's involvement in the IGY, its scientific representatives had known about the Soviet Sputniks long before the British government.[88] However, Percy Andrade FRS in his *A Brief History of the Royal Society*, which was published in connection with the Society's Tercentenary, emphasised the Society's role in tracking Sputnik as "another example of friendly international collaboration for scientific ends".[89]

This tension between nationalism and internationalism was highlighted in a speech at the Society's Tercentenary celebrations in 1960, when Conservative Prime Minister Harold MacMillan used the Society's contribution to the IGY as an example of its long tradition of internationalism and independence, comparing it to Humphrey Davy's visits to France during the Napoleonic Wars. Yet, he was clear that this internationalism was a "precious national asset".[90]

The National Science Foundation (NSF) promoted international data-sharing, believing that the USA was better placed than other nations to exploit data, thus allowing them to gain from technical information produced by other countries. It

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[87] However, Turchetti et al (2008) argue that the Antarctic Treaty (AT) did not achieve its aim of sending geopolitical ambitions in the Antarctic into dormancy; rather it just translated them into scientific relations. In fact, the whole project had been conceived by Western allies as a political solution to the Soviet Union's military ambitions. High-ranking diplomats of Britain, the USA, Australia and New Zealand had met during the IGY, and shortly after the launch of the first Sputnik, to engineer a plan to use international scientific co-operation as a diplomatic tool to avoid militarization of the South Pole. During the run up to the IGY, the Soviet Union had established several bases on Antarctic territory, and the aforementioned countries wanted to prevent Antarctica being used as a base from which the Soviets could threaten the 'free' world powers. A programme of scientific internationalism, enabled and enforced by the AT, was seen as a better option than trying to contain the Soviet Union's designs on the Antarctic. Turchetti S., Naylor A., Dean K., Siegert M. (2008): "On thick ice: scientific internationalism and Antarctic affairs, 1957–1980", *History and Technology* **24** (4), 351-376.

[88] RS Officers' Minutes [OM/ 6 (61)] 'Scientific Progress and Foreign Policy: Note by D. C. Martin'. The role of the Society specifically, regarding Sputnik, was emphasised much more in later internal Foreign Office documents which drew on Martin's paper, in comparison to Martin's more general treatment in the paper itself. See TNA Scientific Relations Department [FCO 55/7]: especially item 2-E1, "Science and Foreign Policy", J.A. Thomson, 05/08/1966.

[89] GH Andrade E.N. da C (1960): *A Brief History of the Royal Society* (London: The Royal Society), 17.

[90] MacMillan H. (1961): "Tercentenary Banquet, Grosvenor House, Tuesday 26 July 1960. The Toast of the Royal Society proposed by the Rt. Hon Harold Macmillan, M.P., Prime Minister and First Lord of the Treasury", in *The Tercentenary Celebrations of the Royal Society of London, 1960* (London: The Royal Society), 34.

was on this basis that the NSF lobbied the US government to allocate funds to the IGY. The successful launch of Sputnik I on the eve of the IGY destroyed an important part of the claim of US technological superiority.[91]

Following the launch of the Sputniks in 1957 and in the context of the IGY, the IRD considered expanding counter-propaganda activities to focus on Soviet science. The object would be to display Soviet scientific achievements in a perspective that countered some of the "scare headlines in the [...] British press" and the alleged exaggerations made by official Soviet documents or fellow-travellers.[92] Counter-propaganda until Sputnik had, of course, focused on Soviet ideology being incompatible with scientific progress. The new tactic was to dampen Soviet glorification of its technological achievements and foster scepticism about the integrity of the country's scientists. An internal IRD memo suggested questions to pursue, including: Did the Russians honour their scientific data obligations under the IGY agreement? Did they exaggerate the weight of the Sputniks?[93] In 1959 an article appeared in *Science* along the lines of the former, criticising the Russians for not honouring their IGY data commitments, thus compromising peer review and contravening the norms of a "good scientist".[94]

Elena Aronova et al in their recent paper *Big Science and Big Data in Biology* argue that the legacy of the IGY was the realisation in scientific circles that it was impossible to conduct an intra-governmental 'big science' project without becoming entangled in institutional and national politics.[95] More specifically, the 'Sputnik crisis' had the effect of initiating closer collaboration between the British

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[91] Dean K., Naylor S., Turchetti S., Siegert M. (2008): "Data in Antarctic Science and Politics", *Social Studies of Science* **38** (4), 589-590.
[92] TNA Information Research Department [FO 1110/1080] 'Soviet scientific propaganda, 1958': 30/12/1957; 21/01/1958; Quote in H.S. Young to Foreign Office, 18/03/1958.
[93] TNA Information Research Department [FO 1110/1080]: 10/04/1958.
[94] Newell H. E., Townsend J. W. (1959): "IGY Conference in Moscow", *Science*, New Series **129** (3341), 79-84. The article reported that the exchange of IGY data was smooth except in areas of rockets and satellites; difficulties arose because of the USSR's refusal to provide data on certain things; this meant that others could not judge the validity of papers written on the basis of that data: a "good scientist" would provide this.
The IRD mailing lists included press and information officers in certain British embassies abroad, including J.H.A. Watson Esq, British Embassy, Washington as well as key media contacts at the BBC, *The Times*, *Nature*, *Discovery* and *Endeavour* – TNA Information Research Department [FO 1110/759]: 12/01/1955.
[95] Aronova et al (2010), 202-203.

and the Americans in nuclear and defence policies.[96] The National Aeronautics and Space Administration (NASA) was established in response to Sputnik, and NATO established the NATO Science Committee, which launched a programme of scientific exchanges, research grants and summer schools to encourage collaboration among its member states in an attempt to bridge the technological gap with the USSR.[97] British access to these NATO fellowships eventually became centralised (as one application process) in 1965 at the Department for Education and Science, alongside the Royal Society's European exchange scheme, which was designed to foster co-operation in Western Europe in order to bridge the technological gap with the USA (see chapter 3). This serves as a reminder that although Britain was strongly allied with the USA during the Cold War, the British government and the Royal Society alike, always had national interests at heart. The next section (and chapter 3) builds on this idea. Whilst it shows how strongly the British Commonwealth became tied to the USA and Western ideals in the transitions from WWII to Cold War and Empire to Commonwealth, it highlights how the Royal Society responded creatively to the changing environment, in order to secure a central and competitive place for Britain in the international scientific community.

## 2.5 Empire to Commonwealth

### 2.5.1 Allied co-operation: continuation from a WWII model

The quantitative and qualitative step change in research and development effort during WWII drew upon closer scientific collaboration between Britain and the countries of the Commonwealth. Scientific liaison offices of the Dominions were established in London and served as centres of exchange for technical information required by the Service and Supply Departments.[98] The War also had the effect of

[96] Godwin (2007), 50-52.
[97] See Krige J. (2000): "NATO and the strengthening of Western science in the post-sputnik era", *Minerva* **34**, 81-108; Krige (2006), 203-208.
[98] King (1946): "International Relations in Science" in Royal Society (eds) (1948b): *The Royal Society Empire Scientific Conference June-July 1946 Report Vol. II* (London: Royal Society), 118-119.
The scientific problems provided by the war included technical devices and weapons, supply, medicine, public health, agriculture, food, and communications. RS Council Minutes vol16 (1940-

further aligning British and Commonwealth military interests with those of the USA, precipitating an Anglo-American association and a scientific infrastructure that lasted throughout the Cold War.[99] In June 1940, Henry Tizard, Scientific Adviser to the Chief of Air Staff, and Lord Lothian, the British Ambassador in Washington, both advocated greater scientific co-operation with the USA in the war effort.[100] Subsequently, Tizard was asked to head a 'Mission' to Washington, alongside John Cockcroft and Ralph Fowler FRS, to share technical secrets and experience with the US Armed Forces. This so-called 'Tizard Mission on military and scientific thinking' led to the establishment in 1941 of the UK Scientific Mission (UKSM) in Washington which institutionalised the US connection to the Commonwealth war effort.[101]

During the course of the war, Australia, New Zealand, South Africa, Canada and India also set up scientific liaison offices in Washington. The British Central Scientific Office (BCenSO) followed later, which connected all these missions including the UKSM via a central hub (also in Washington). A corresponding branch was set up in London: the US Office of Scientific Research and Development (OSRD). These offices became important centres connecting visiting scientists from the British Commonwealth and the USA, and facilitating the exchange of information.[102] Roy MacLeod in *Passages in Imperial Science: From Empire to Commonwealth* describes the scientific liaison officers as constituting an "invisible college" of immense importance, transmitting a huge quantity of technical information and servicing a vast network of research groups.[103]

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45) 15/04/1943 pp155-164, Appendix A: 'Report of the British Commonwealth Science Committee'.
For more on the activities of the BCSO see TNA series [AVIA 42] Ministry of Supply and successors: British Central Scientific Office and British Commonwealth Scientific Office, and on its history see TNA [AVIA 42/79] 'Correspondence regarding BCSO history, 1944-47'.

[99] MacLeod R. (1993): "Passages in Imperial Science: From Empire to Commonwealth", *Journal of World History* **4** (1) 141.

[100] Tizard played a key role integrating science into the services during the interwar period in order to prepare for a potential future war. At the outbreak of war he became Scientific Adviser to the Chief of Air Staff. Farren W.S., Jones R.V. (1961): "Henry Thomas Tizard. 1885-1959", *Biographical Memoirs of Fellows of the Royal Society* **7**, 331-337.

[101] Farren, Jones (1961), 337; MacLeod (1993), 141.

[102] MacLeod (1993), 141-142; King (1946), 116-137.

[103] MacLeod (1993), 142.

In October 1941 the Officers of the Society decided to call an informal conference of scientific representatives from the Empire, in order to consider how they could best co-ordinate scientific resources of the Empire to tackle the problems of the post-war period. The conference was held in London and was attended by representatives of the Dominions and India, the Secretaries of the Research Councils and Lord Hankey of the Prime Minister's Office.[104] Following the meeting, the Royal Society established the British Commonwealth Science Committee (hereafter the BCSC) in 1942, under the Chairmanship of Sir Henry Dale PRS, with the senior scientific liaison officers from the Dominions as members. The Committee met frequently during that year to plan how the collaborative machinery that had grown up under wartime conditions could be preserved and adapted to a peacetime environment.[105] The Secretary was Dr. Alexander King, from the Ministry of Supply, who became the Head of the UK Scientific Mission and Scientific Attaché at the British Embassy in Washington the following year. [106] A representative of the USA was invited to join the Committee later, alongside officers of the OSRD.[107]

The Committee reported to the High Commissioner of each Dominion in London, and to the Scientific Advisory Committee to the War Cabinet (SACWC) in April 1943.[108] It considered that the BCSC's responsibilities for facilitating scientific co-operation within the Empire should be absorbed into the SACWC in peacetime, and that the Society should convene an Empire Scientific Conference as soon as possible after the War.[109] In addition to discussing collaboration and the movement of scientists within the Empire, the BCSC stressed the desirability, on return to peacetime conditions, of establishing machinery for permanent scientific

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[104] RS Council Minutes vol 16 (1940-45) 15/04/1943 pp155-164, Appendix A: 'Report of the British Commonwealth Science Committee' p155.
Lord Hankey was also the first Chairman of the SACWC. Gummett P. (1980) *Scientists in Whitehall* (GB: Manchester University Press), 30.
[105] King (1946), 119; RS Council Minutes vol 16 (1940-45) 15/04/1943 pp155-164, Appendix A: 'Report of the British Commonwealth Science Committee' p155.
[106] Royal Society (1948a): *The Royal Society Empire Scientific Conference June-July 1946 Report Vol. I* (London: Royal Society), 11.
[107] RS Council Minutes vol 16 (1940-45) 15/04/1943 pp155-164, Appendix A: 'Report of the British Commonwealth Science Committee', p155.
[108] King (1946), 119.
[109] RS Council Minutes vol 16 (1940-45) 15/04/1943 pp155-164, Appendix A: 'Report of the British Commonwealth Science Committee'; Anon. (1948a): *The Royal Society Empire Scientific Conference, June-July 1946. Report. Volume I* (London: The Royal Society), 11.

liaison within the Commonwealth, including an Imperial Bureaux of Information along the lines of the Imperial Agricultural Bureaux.[110]

In 1946 the British Central Scientific Office (BCenSO) in Washington was reconstituted as the British Commonwealth Scientific Office (BCommSO), signalling that the allied scientific effort between the USA, Britain and its Commonwealth would continue.[111] The former BCenSO was considered a wartime experiment to facilitate Anglo-American scientific collaboration, but its machinery adapted well to the new allied effort in the Cold War. Responsibility for the new BCommSO was transferred to the Overseas Liaison Division of the Department of Scientific and Industrial Research (DSIR) where it remained until 1965. The purpose of the Division was to generate and disseminate information on scientific and technical progress abroad. The unit also took on the responsibility of mediating with other scientific liaison officers (also known as Scientific Counsellors and Scientific Attaches) in overseas offices, receiving and distributing their reports.[112] During this time, the scientific liaison officers expanded beyond Commonwealth countries, to Paris, Bonn, Moscow, Tokyo, and Stockholm, but administratively their roots were twinned with those of the UKSM in Washington.[113]

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[110] House of Commons Parliamentary Papers Online (Nov 1946): "British Commonwealth Scientific Official Conference, London 1946. Report of Proceedings" [Cmd. 6970]; RS Council Minutes vol 16 (1940-45) 15/04/1943 pp155-164, Appendix A: 'Report of the British Commonwealth Science Committee'.

[111] TNA series [FV7] Department of Industry and predecessors: Overseas Technical Information Unit and predecessors: Reports – Record summary and administrative history

[112] TNA [FV7] – Record summary and administrative history. In about 1960 the Division became known as the Overseas Liaison Group.

[113] See for example TNA Department of Industry and predecessors [FV 7/ 146] 'Science Abroad 1969: Reports from Scientific Counsellors Index Jan-Dec 1969'; TNA Science and Technology Department [FCO 55/505] 'Scientific Counsellors attached to UK embassies overseas, 1970-71': item 26.

In 1970 a review of Scientific Counsellors was undertaken known as the Duncan review. During the review process, the Science and Technology Department in the FCO came to the conclusion that the role of the Scientific Counsellor had become ambiguous over time, varied dramatically between countries, and was somewhat idiosyncratic to the individual in the post. Ironically, those Counsellors who were the most useful from the FCO's perspective were those who had diverged the most from their original job description. The role had become most useful where it had evolved within the diplomatic machinery of the British embassy abroad, where the role had morphed into more of an intelligence gathering exercise, especially in areas with Cold War relevance such as space and nuclear. The Counsellors in Paris, Moscow and Tokyo were particularly praised in this regard. The Officers of the Society submitted evidence to the Duncan review in 1969, recommending an expansion of the Scientific Counsellor scheme to more capitals in Europe, Latin America and India. They noted not only their utility in assisting visiting British scientists, but also

From 1965, this machinery was transferred to the International Scientific Relations Division (ISRD) within the Department for Education and Science (DES) where it formed part of an influential informal network with FRSs.[114] The next chapter describes this network, which I term the 'national network for international science and diplomacy'. It was evident from the mid- to late-1960s when responsibility for scientific liaison officers rested with the ISRD in the Department for Education and Science. The ISRD was an important cog in the network, which also consisted of the Science and Technology Department (STD) in the FCO, the Ministry of Technology, the Diplomatic Service and the Royal Society.[115] This network was central to linking up the Officers and certain Fellows of the Society with top officials in the FCO and the Diplomatic Service, facilitating the exchange of information on science-related issues with a diplomatic or intelligence dimension.

The transition from Empire to Commonwealth occurred in parallel, albeit on a different scale and timetable, with the transition from WWII to the Cold War. As such, the scientific liaison infrastructure connecting the Commonwealth to Britain and to other Commonwealth countries, evolved within a Cold War framework. Britain's ideological connection to the USA served to connect this infrastructure to the Western military-scientific agenda. The Royal Society was not solely responsible for this transition, however, they played a key role in facilitating and legitimising it.

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their importance to foreign affairs and trade. Their original role was seen as: (i) providing scientific advice to Ambassadors; (ii) representing the home scientific community; (iii) sourcing scientific intelligence for home departments. TNA Science and Technology Department [FCO 55/ 505]: item 26 "Value to the FCO of Scientific Counsellors" 23/12/1970, Arculus, STD; TNA [FCO 55/ 233]: item 21 "The Royal Society and Scientific Counsellors" J.C. Thomas, 06/05/1969; item 22 "Scientific Counsellors: Evidence to the Duncan Committee submitted by the Officers of the Royal Society" 30/04/1969, RS ref=[C/ 73 (69)].

[114] BCSO/ Scientific Counsellor machinery remained with the ISRD until 1971; thereafter it moved to the Overseas Technical Information Unit of the Department of Trade and Industry until 1974, and subsequently the Department of Industry. TNA [FV7] – Record summary and administrative history

[115] See for example, TNA Science and Technology Department [FCO 55/233] 'Steering brief for Mr Mulley's meeting with the Royal Society, 1968-69': item 17, Audland (STD) to Appleyard (ISRD), 05/05/1969.

### 2.5.2 Retaining influence in the Commonwealth during the Cold War

The Government approved the Society's proposal for an Empire Scientific Conference and in January 1945 the Royal Society approached the Treasury regarding its financing. Anticipating an end to the war, £15000 was allocated in the Parliamentary Estimates to cover expenses. Later, in October 1945, a representative of the Treasury, Mr. T.S. Chegwidden, was appointed to assist the Society with the Conference, which was scheduled and designed to be in "close association" with the British Commonwealth Scientific Official Conference (chaired by Edward Appleton FRS), and the Imperial Agricultural Bureaux Review Conference. Resolutions arising from the Society's Empire Scientific Conference were passed immediately onto the British Commonwealth Scientific Official Conference for consideration.[116]

At the opening ceremony of the Empire Scientific Conference on 17 June 1946, the main speeches by Sir Robert Robinson, PRS, and King George VI, drew inspiration from the experience of the War and how it had united the Empire. The King linked this to the possible peacetime benefits of new developments:

> We have recently emerged from a terrible war in which, with God's help, we and our Allies were victorious. For six years, the means of waging war and securing peace have filled our minds and occupied our days. Our energies were concentrated for the most part upon destroying the power of our enemies. Not only had old weapons to be continually improved, but new ones had to be devised, and in this work the scientists played an essential part. But not all the work of scientists had destructive ends in view. Great advances have been made which are of the highest importance to civilisation in times of peace.[117]

Sir Robert Robinson, PRS, in his speech at the Empire Scientific Conference in June 1946, opened with a brief traverse of the Royal Society's history in relation to the British Empire. The language used, of superiority and possession,

[116] House of Commons Parliamentary Papers Online (Nov 1946): "British Commonwealth Scientific Official Conference, London 1946. Report of Proceedings" [Cmd. 6970].
[117] Royal Society (1948a), 18.

contrasted markedly with the new 'egalitarian' discourse of Commonwealth that emerged during the post-war period:

> The Society received its Royal Charter from its Founder Patron, King Charles II, in the year 1662, and since that time many historic events have brought the Society into close relation with the affairs of Empire.
>
> The Famous voyage of Captain Cook in His Majesty's Ship *Endeavour* was undertaken at the instance [*sic*] of the Society, particularly for the purpose of the accurate determination of the transit of Venus. It led to the birth of two Dominions as well as of many Colonial possessions. One of my predecessors, the illustrious Sir Joseph Banks, took part in the expedition as a young botanist, and has not inaptly been called 'The Father of Australia.'
>
> Many other expeditions and ventures have been initiated by the Society, for instance, the voyage of H.M.S. *Challenger*, and these have extended knowledge of the oceans and the territories in the great expanse of your Imperial and Colonial domain.[118]

Indeed, Robinson's words drew a clear link between scientific curiosity and imperial expansion. The concept of the Society and of the Commonwealth that would emerge within the next decade required a new analogy: a shift towards the Society, science and the Commonwealth as free, self-governing and democratic.

As MacLeod (2010) notes, the Royal Society Conference was the last time that the 'Empire' assembled as a whole with Britain at the helm.[119] By the time that many of the same representatives met again two years later at the Royal Society Scientific Information Conference – it was at a 'Commonwealth' conference. The change in title signalled a profound shift in constitutional and political relations: Pakistan and India were granted independence in 1947, remaining in the new Commonwealth, and the Dominions were looking increasingly to their region rather than London. In 1948 the Universities Bureau of the British Empire (est. 1913) changed its name to the Association of Universities of the British

[118] Ibid. 15.
[119] MacLeod R. (2010): "The Royal Society and the Commonwealth: Old Friendships, New Frontiers", *Notes and Records of the Royal Society of London* **64,** 145.

Commonwealth, and Ireland renounced the British Crown with the Republic of Ireland Act 1948. In April 1949 the London Declaration changed the 'British Commonwealth' to the 'Commonwealth of Nations,' reflecting the developing political independence of its member states.

As mentioned in chapter 1, whereas the proposals for a centralised information service were strongly supported at the Empire Scientific Conference, the nature of this scheme proved too contentious at the Scientific Information Conference two years later, due to its potential vulnerability to centralised control and censorship. In more ways than one, a Cold War atmosphere hung over the Scientific Information Conference, as it coincided with the Berlin airlift and the climax of the Lysenko affair.

In November 1948 at the Society's Anniversary Dinner, Lord President of the Council, Herbert Morrison MP, praised the Royal Society as an embodiment of democracy and freedom:

> The struggle in which we are engaged to-day for the whole future of western civilisation is a struggle to defend a few simple fundamental values without which free men cannot live. The spirit of scientific inquiry, the scientific approach to problems of all sorts and the self-discipline and universality of the scientist are among the most essential of these values, and the Royal Society of London has the proud position of having nursed these values from their earliest days and having throughout its history been their staunchest upholder.[120]

Another British Commonwealth Scientific Official Conference was held in 1952, this time in Australia, to consider how the fullest co-operation could be achieved between research and development organisations in the Commonwealth, which effectively resulted in an agreement to continue the machinery set up at the 1946 conference. A number of general principles were set out on how science should be organised nationally and these were generally those adopted by Britain. The Society's involvement with this conference is unclear; the indications are that they

[120] Morrison H. (May 1949): "Anniversary Dinner 1948", *Notes and Records of the Royal Society* **6** (2), 82.

just sent Sir Ben Lockspeiser FRS as an observer.[121] The following year, the Australian Academy of Science was established, with a royal charter presented by H.M. the Queen in 1954. In 1956 the new Academy adopted, in one fell swoop, all of the statutes of the Royal Society.[122] Todd commented in his presidential speech in 1980 that Dale's decision to choose a post-war path for the Society that was grounded in the principles of the freedom and universality of science, was mirrored in varying degrees across the Commonwealth, South Africa and Scandinavia.[123]

The Royal Society as a metropolis

Growing Dominion autonomy and the process of decolonisation forced the Royal Society to moderate the rules governing election to the fellowship. Eligibility for a Fellow (as opposed to a Foreign Member) of the Society had previously been defined as 'natives or inhabitants of his Majesty's dominions'. In 1948 the Society decided to extend 'ordinary membership' to territories of the old Empire, now Commonwealth. This move served not only to retain but expand the Society's 'imperial' scope and fraternal reach.

Yet India, whilst joining the Commonwealth, did so as a Republic, thus rejecting the King as head of state. In response to this, the Society redefined ordinary membership to be open to 'British [Commonwealth] subjects', rather than 'his Majesty's subjects'. This had the desired effect of including India. In 1948, the Republic of Ireland left the Commonwealth, excluding its citizens from ordinary membership, and so the Society changed its rules of eligibility again in 1951 to include 'a British subject or citizen of Eire'.[124] This reflected the decision made by the British Government in 1949 to offer citizens of Eire a status in UK law similar to that of citizens of the Commonwealth. The Society's Council sought advice on this issue from the Commonwealth Relations Office and subsequently

[121] RS Council Minutes vol 18 (1948-53) 12/02/1953 p458-460: 'Report by Sir Ben Lockspeiser [FRS 1949] on the British Commonwealth Scientific Conference, Australia, 1952', January 1953.
[122] MacLeod (2010), 142
[123] Todd (1980), 10
[124] Home R. W. (2003): "The Royal Society and the Empire: The Colonial and Commonwealth Fellowship Part 2. After 1847", *Notes and Records of the Royal Society of London* **57** (1), 61-62. This put pressure on the number of Fellows to be elected each year, and so it was increased to 25 before the 1946 election. Home (2003), 62-63; It was not until 1979 that mere residency in a Commonwealth country conferred eligibility for ordinary membership, and only then after heated debate within the Society. Home (2003), 62.

decided that they would treat citizens of Eire as being equally eligible for the fellowship as British subjects. In contrast, when South Africa left the Commonwealth in 1962, its citizens were deemed ineligible for election as Fellows. Eligibility for the fellowship was redefined again in 1965 as 'British subject or Commonwealth citizen or citizen of the Irish Republic'.[125] Their general policy towards eligibility, therefore, was one of inclusion.

Rod Home in his paper *The Royal Society and the Empire* argues that extending eligibility for ordinary membership to Commonwealth scientists reflected the widely held view that citizens of the former Empire were part of an extended family. Before decolonisation, Britain was like a magnet that attracted scientific talent from the colonies to train, and build contacts with British science that would transcend the distance after they returned home. By extending eligibility for the fellowship to British subjects throughout the Commonwealth, the Society's status as a scientific centre was retained, because scientists in the Commonwealth continued to aspire to its membership, and to pursue research programmes in tune with British agendas rather than local or other international ones.[126] Therefore, Home argues that notions of metropolis and province, centre and periphery, remained valid dichotomies to describe the relationship between the Society and scientists in the former Empire, long after it dismantled.[127] All the more so, as many scientists who came to Britain did not return home.

Home's argument can be complemented by an analysis of the Society's Commonwealth Bursaries scheme. The Royal Society and Nuffield Foundation Commonwealth Bursaries scheme was established in 1953 to encourage the movement of scientists within the Commonwealth.[128] The vast majority (83%) of movement under this scheme was bilateral with Britain, despite the funds being largely unconditional and open to the entire Commonwealth on bilateral or

[125] Personal communication: Dr. Peter Collins, Director, Royal Society Centre for the History of Science, 10/07/2012. See Collins' forthcoming book.
[126] Collins points out that scientists would rather be a 'proper' Fellow than a Foreign Member because the former tends to confer more status, whilst the latter is often delayed and has more of an honorary function. Personal communication: Dr. Peter Collins, Director, Royal Society Centre for the History of Science, 10/07/2012. See Collins' forthcoming book.
[127] Home (2003), 63-66.
[128] For administration and objectives of the scheme in the first decade, see: RS Council Minutes vol 18 (1948-53) 16/04/1953 pp476-7 minute 16 + Appendix C; vol 18, 14/05/1953 pp492-3 minute 11; vol 18, 16/07/1953 pp508-9 minute 10; vol 18, 15/10/1953 appendix C p539.

multilateral terms.[129] This would seem to add weight to an argument made by David Martin, Assistant Secretary of the Society, in a paper prepared for the Permanent Secretary of the Foreign Office in 1961. He claimed that the Royal Society's Commonwealth Bursaries were useful for perpetuating a British viewpoint in the Commonwealth.[130] Although this document represents, at least in part, a strategic attempt to secure continued government funds, the figures do suggest that, whatever the intention, the result of the Bursary scheme was to maintain Britain as a 'centre', making the rest of the Commonwealth 'peripheries'.

The statistics of the Bursary scheme raises the question of how closely the Society was engaged with the old 'colonial territories' of the Commonwealth, as awards heavily favoured exchange with the more scientifically developed former Dominions (Australia, Canada, New Zealand, South Africa and India) despite the scheme being open to the entire Commonwealth.[131] Ceylon contributed funds to the scheme but never benefitted from an exchange. Therefore, whilst the predominance of bilateral movement under the scheme complements Home's argument that the Royal Society functioned as a metropolis in the Commonwealth long after parts of the British Empire became independent, it seems that the

[129] RS Council Minutes (own calculations) Figures based on the first decade of the scheme between May 1954 - May 1964 (21 separate allocations), as given in the Council Minutes – vol 19, 13/05/1954 pp48-49 minute 17; vol 19, 30/11/1954 pp113-114 minute 20; vol 19, 16/06/1955 pp178-179 minute 16; vol 19, 30/11/1955 pp238-239 minute 17; vol 19, 14/06/1956 pp323-324 minute 19; vol 19, 13/12/1956 pp396-397 minute 20; vol 19, 20/06/1957 pp486-487 minute 28; vol 19, 30/11/1957 pp553-554 minute 15; vol 20, 22/05/1958 pp78-79 minute 21; vol 20, 01/12/1958 pp163-64 minute 22; vol 20, 18/06/1959 pp264-265 minute 27; vol 20, 17/12/1959 p340 minute 23; vol 20, 16/06/1960 p421 minute 37; vol 20, 30/11/1960 pp492-493 minute 22; vol 20, 18/05/1961 pp578-579 minute 33; vol 21, 14/12/1961 pp8-9 minute 21; vol 21, 14/06/1962 pp104-105 minute 27; vol 21, 30/11/1962 pp 204-205 minute 23; vol 21, 20/06/1963 pp333-334 minute 35; vol 21, 12/12/1963 pp439-440 minute 27; vol 21, 14/05/1964 pp549-550 minute 31.

[130] RS Officers' Minutes [OM/ 6 (61)] 'Scientific Progress and Foreign Policy: Note by D. C. Martin'.

[131] Australia benefitted far more from the Bursaries scheme than any other country. There were perhaps certain scientific advantages to Australia that made it more appealing and worthwhile. It is also possible that Lord Nuffield, aka William Richard Morris, benefactor of the Nuffield Foundation, was able to pursue a personal agenda of his through the scheme. Morris, elected FRS under Statute 12 ('for services to science and/or for the reason that their membership would be of benefit to the Society') in 1939, made his fortune through Morris Motors Ltd (Morris Minor, Morris Garages (MG) etc) and made many philanthropic donations, especially in the field of medicine and in the sphere of Empire. Conscious of the importance of the export market, he developed the Empire car circa 1927 and founded Morris Industrial Exports in 1937. He established the Nuffield Foundation in 1943 with shares of £10m, and in the post-war period he set 'maximum exports' as a major target. According to his Biological Memoir of the RS, he was 'especially keen' on Australia, establishing Nuffield (Australia) Ltd in 1945. Holder D. W. (1966): "William Richard Morris, First Viscount Nuffield. 1877-1963", *Biographical Memoirs of Fellows of the Royal Society* **12**, 387-404, especially p395.

'developing countries' were neglected by the Society, at least until the scheme was expanded in 1963. The new initiative was funded through the Department for Technical Co-operation (Foreign Office) Vote and targeted specifically at developing countries of the Commonwealth. It was expanded again in 1970 with £7000 from the Commonwealth Foundation.[132] However, the Society's Commonwealth bursaries scheme represented only a small fraction of the total scientific co-operation between Britain and the Commonwealth.[133] More significantly, these funds paled in comparison to those which the Society secured for scientific exchange with Europe, showing very clearly that the Commonwealth was not a major priority for them.

### 2.5.3 The limitations of Commonwealth

The Commonwealth was not a natural space for Britain to co-operate in pure or elite science, the traditional realm of the Society. Whilst the former Dominions were becoming more independent in science and were looking to other partners such as the USA, the former Crown Colonies, now 'New Commonwealth', continued to be a space dominated by applied scientific projects in biological, medical and agricultural fields, operated directly through the Colonial Office with the close co-operation and advice of the UK Research Councils.[134]

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[132] RS Council Minutes vol 21 (1961-64) 07/03/1963 minute 18 p274; vol 21, 05/03/1964 p491; vol 24 (1970-73) 17/12/1970 pp14-15, 20-21. The Society was approached by Sir Charles Morris to assist in the selection of candidates for 'special commonwealth awards' in relation to the scheme (targeting developing countries of the Commonwealth) announced by Robert Carr MP, Minister for Technical Cooperation, in the House of Commons, July 16. The RS agreed in principle. About half of Fellows supported the scheme and Council decided to go ahead. RS Council Minutes vol 21 (1961-64) 07/11/1963 p408; vol 21, 30/11/1963 p423; vol 21, 16/01/1964 p452-3.

[133] The RS Commonwealth Bursaries were established with a baseline contribution of £2500 from the Society for movement in any direction, and £5000 from the Nuffield Foundation for movement other than to the UK, per year for five years. Other Commonwealth countries were invited to give small contributions. RS Council Minutes vol 19 (1953-57) 30/11/1955 pp238-40 minute 17(iv). Contrast this to £17m which was allocation in the period 1945-1958 for research in the colonies under the auspices of the Colonial Development and Welfare (CDW) Act. More on this in the following section.

[134] Havinden M., Meredith D. (1993): *Colonialism and Development: Britain and its Tropical Colonies, 1850-1960* (London: Routledge); Tilley H. (2011): *Africa as a Living Laboratory: Empire, Development, and the Problem of Scientific Knowledge* (Chicago: University of Chicago Press).

The Medical Research Council (MRC), unlike the other Research Councils, also operated directly overseas, having three research units in the colonies. The MRC were directly responsible for work

This idea of "colonial science" as a predominantly applied and biological affair, was an inter-war construction, but was still evident in post-war British programmes of research assistance/ technical assistance in the remaining colonies and the New Commonwealth.[135] The Colonial Development and Welfare Act of 1940 (and its later incarnations) was the main mechanism for funding research in the New Commonwealth throughout this period.[136] Research projects funded under these Acts were initiated by the Colonial Office itself (rather than at a local level). To take allocation in the period 1944-46 as an example, 60% of the funds were allocated to agricultural, veterinary and fisheries research, 15% to social services, 11% miscellaneous, and 8% to medical, public health and sanitation. Over 40% was for research carried out in Britain.[137]

There was a government enquiry in 1958 which examined the existing methods for providing research assistance to the New Commonwealth. Initiated by moves towards independence in the colonies, the enquiry sought to make recommendations as to whether the British Government should attempt to bridge the gap with either money or manpower, should newly-independent ex-colonies

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in the tropical field. The Research Councils advised on expenditure under the CDW Act. The Secretaries of MRC and ARC were Chairmen of the Colonial Medical Research Committee and Colonial Agricultural Research Committee respectively. Chairmen of these Committees sat on the Colonial Research Council which advised on allocation of funds from the CDW Act and also general questions. The Secretary of State was advised by these committees, plus permanent scientific advisors in the Colonial Office. TNA Cabinet Office [CAB 124/2592] 'Briefs for the committee on assistance in the field of scientific research to commonwealth and foreign countries' (1958): "Organisation of United Kingdom assistance, in the field of scientific research, to the colonies, Commonwealth, and foreign countries: Report of an official working party". Cabinet Office 30/01/1958, especially pp3, 7-8.

[135] Worboys M. (1996): "British Colonial Science Policy, 1918-1939", in Petitjean P. (ed) Colonial Sciences: Researchers and Institution (Paris), 109; In 1926 the Research Committee of the Empire Marketing Board (EMB) defined its role as doing for applied biology in the Empire what the DSIR did for physics, chemistry and engineering in Britain. Worboys (1996), 105; Havinden, Meredith (1993).

[136] Cabinet agreed to the Colonial Development and Welfare Act in March 1940 as a new way of promoting economic development in the colonial empire. Under the 1940 Act, £5m per year for 10 years was allocated and a further £500'000 per year for research schemes. Up to 1946, the £5m per year was spent (on average) but research spend remained low with only £1.1m spent of £2.8m available, with half of that being allocated in 1945-6. Funds for the Act were increased in 1945 to £120m over 10 years, under Secretary of State for the Colonies, Oliver Stanley. Stanley was mindful of how crucial the imminent post-war years would be for the future of the colonial empire. He argued that without the Commonwealth and Empire, Britain would play a small role in world affairs. Havinden, Meredith (1993), 218-227.

[137] Havinden, Meredith (1993), 218-225.

decide not to continue research work in their territories.[138] This document and related files clearly show that the Research Councils dominated this field; there is no mention of the Royal Society's activities in the Commonwealth.[139] Furthermore, the Society was not consulted for the enquiry (although those who were consulted were all Fellows working in other capacities). The scientists consulted were Sir Harold Himsworth (Secretary to the MRC), Sir William Slater (Secretary to the ARC), Sir Alexander Todd and Sir Solly Zuckerman (Chairman and Deputy Chairman of the Advisory Council on Scientific Policy respectively). The enquiry recommended that the Research Councils should play a major part in building relationships with New Commonwealth territories. In seeking a new organisation to link countries and state research organisations of the Commonwealth and to advise on overseas research, the report recommended establishing a new organisation. Given the Society's (albeit developing) role in international scientific relations, it is revealing that they were not considered alongside other options in the report. Especially so, given that advisors to the enquiry considered that research assistance would be better received by the New Commonwealth under the auspices of a non-governmental body.[140] One of the reasons for this could be that such applied scientific programmes were seen as being more the preserve of the Agricultural and Medical Research Councils rather than the Society, who operated more in the sphere of the fundamental sciences.

Viewed in this light, perhaps David Martin's document, prepared for the Foreign Office, is more revealing when interpreted as a strategic appeal for government funds, rather than a reflection of the Society's extensive activity in the Commonwealth realm. Another strategic use of 'Commonwealth' by the Society

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[138] TNA Cabinet Office [CAB 124/2592]: "Organisation of United Kingdom assistance, in the field of scientific research, to the colonies, Commonwealth, and foreign countries: Report of an official working party". Cabinet Office 30/01/1958, especially p3.

[139] In addition to the enquiry report, see also TNA Cabinet Office [CAB 124/2592]: "Sir Solly Zuckerman's Scheme: A.S.R.(58)2" 21/07/1958; "Scientific Research in the Commonwealth and Colonies: A.S.R.(58)3"; "Overseas Research Council: Memorandum by the Lord President of the Council" 24/07/1958, and Jeffries C. (ed) (1964): *A Review of Colonial Research 1940-1960* (London: Her Majesty's Stationery Office). The only mentions of the Royal Society in this review were 'historic' references to their involvement in colonial research in the late 19th Century (pre-Research Councils) -see pp10-11. There is no mention of their post-war Commonwealth Bursaries Scheme.

[140] TNA Cabinet Office [CAB 124/2592]: "Organisation of United Kingdom assistance, in the field of scientific research, to the colonies, Commonwealth, and foreign countries: Report of an official working party". Cabinet Office 30/01/1958, pp3, 13-16, 18.

was evident when Howard Florey, as PRS, was attempting to secure funds from Commonwealth nations in 1964 to convert their future premises at Carlton House Terrace.[141] The following is an extract of a letter from Florey to the Prime Minister of Australia on 13 February 1964:

> As perhaps you know [the Royal Society] is the oldest scientific society in the world with a continuous history and it is one of the important institutions linking British Commonwealth scientists together for any Commonwealth citizen is potentially eligible for election. [...] We greatly value these links with Australia through our Fellows but we also enjoy the closest collaboration with the Australian Academy of Science which to some extent is modelled on the Royal Society.
>
> [...] One of the principal advantages of our new accommodation will be to improve our capacity to draw together scientists of the British Isles and those from overseas, particularly from the Commonwealth, for in our present premises in Burlington House we have rather primitive facilities for such purposes.[142]

In this incidence the Society mobilised its identity as a Commonwealth institution for strategic purposes. This raises the question: to what extent did the Society only invoke 'Commonwealth' when expedient? There is no doubt that rhetorical commitment to the Commonwealth outstripped financial commitment. It is clear that when a united Western Europe offered the Society a way to genuinely compete with the scientific dominance of America, they pursued it with a vigour not afforded to the Commonwealth.

MacLeod (2010) argues that the Society's Commonwealth conferences of 1967 and 1971, the first since the Empire Conference in 1946, can be seen in retrospect as, in fact, a move away from the Commonwealth as a priority for the Society, as they became more concerned with the opportunities created by British entry into

[141] RS Florey [HF 1/17/2/16] 'Carlton House Terrace, 1961-7': items 11-15.
[142] RS Florey [HF 1/17/2/16] 'Carlton House Terrace, 1961-7': item 15, 13/02/1964, Howard Florey (PRS) to Sir Robert Menzies, Prime Minister, Canberra. It must be noted, however, that Florey was himself an Australian, and this may have increased his likelihood of his invoking the Commonwealth.

the Common Market (1972), the situation in the Soviet Union and Eastern Europe, and competition from America.[143] In the next chapter I show how Blackett (PRS), Thompson (Foreign Secretary), Martin (Executive Secretary) and Keay (Deputy Executive Secretary) played a significant role from 1965 onwards in paving the way for Britain into Europe. Thompson in particular expended almost all of his energy towards this goal. Competition from America (the 'brain drain') was the major driver that caused them to steer the Society towards Europe.

## 2.6 Conclusion

The Society's activities in the period 1946-64 can be usefully explored via the two themes of the 'long 1950s'. The first theme refers to the peak Cold War years, in which an atmosphere of suspicion surrounded the political sympathies and activism of many left-wing Fellows, pushing them into somewhat of an outsider's position. The second theme is that of the decline of Empire and simultaneous rise of American dominance in Europe.

In addressing the first theme, the chapter has juxtaposed the supposed introspective nature of the Society with the political activities of some of its Fellows and Officers. My interpretation shows that the Society, when viewed as a group of individuals rather than as an institution, was very politically engaged, and in ways that support the notion of a 'long 1950s' for Britain. In exploring the body politic of the Society, I have demonstrated the influence of right-wing and liberal political networks, with strong links to the propaganda department of the Foreign Office, which were used to disseminate counter-Soviet science-related propaganda. At the other end of the political spectrum, the intense suspicion surrounding leftist Fellow-travellers in the Society is revealing of the attitude of the British authorities at this time, and their preoccupation with keeping military scientific secrets from the Soviet Union.

Despite the Society's discourse of internationalism and universalism, mobilised especially in relation to the IGY, the Cold War tensions surrounding the event meant scientists and their institutions had to work in a divided world. The

[143] MacLeod (2010), 144.

Society's place within this world was most definitely as an ally of the West. This dynamic has been explored through the second theme, in considering the simultaneous transition from WWII to Cold War and Empire to Commonwealth. In studying the evolution of the British Commonwealth scientific liaison infrastructure, I have shown that the BCenSO machinery of WWII adapted well to the new allied effort in the Cold War, serving to link the military-scientific interests of the Commonwealth to the USA.

The Society also served as a model of Western values for emerging scientific nations in the Commonwealth and their scientific academies. This model was grounded in the ideal of freedom in science, and drew strongly on a liberal ideology. This was one way in which the Society sought to retain cultural hegemony in the former Empire during the Cold War. Strategic adjustments to the rules governing eligibility for the fellowship, and the Commonwealth bursaries scheme, also served to retain a focus on Britain and the Society as a scientific centre. However, I have also demonstrated the limitations to the Society's involvement in the Commonwealth, as the Research Councils increasingly dominated the more applied sciences that formed the basis of research exchanges with the New Commonwealth. There were also limitations to the Society's enthusiasm, as it strongly mobilised the Western and fraternal symbolism of the Commonwealth, whilst not committing itself too heavily to a geopolitical realm that did not promise great dividends for British science.

# CHAPTER 3

## Western allies: affinity to government and proximity to Europe, 1964-72

*See appendix for a list of the main politicians and civil servants mentioned in this chapter*



## 3.1 Introduction

On 16 October 1972 at a Royal Society dinner for H.M. Ambassadors and their Scientific Attachés, Sir Alan Hodgkin, President of the Royal Society, sat at the top table between H.M. Soviet Ambassador and Sir Alec Douglas-Home, Foreign Secretary in Ted Heath's Conservative Government and former Conservative Prime Minister (1963-64). Amongst the eighty-eight guests present were Edwin C. Appleyard, Head of the International Scientific Relations Division, in the

Department of Education and Science (DES), Mr A.H.K. (Harry) Slater of the Department of Trade and Industry, previously in the Ministry of Technology as the Assistant Secretary responsible for technological agreements, Sir Denis Greenhill, Permanent Secretary for Foreign Affairs and head of the Diplomatic Service (1969-73), Sir Thomas Brimelow, Deputy Under-Secretary of State for Foreign Affairs (1969-73), Ronald Arculus (Head) and John Ure of the Science and Technology Department in the Foreign and Commonwealth Office (FCO).[1] In a not insignificant position adjacent to the top table was Sir David Martin, Executive Secretary of the Society, flanked by H.M. Ambassador for the People's Republic of China and H.M. Ambassador for the Federal Republic of Germany.

Sir Alec Douglas-Home stood up to make a speech. He said: "the inter-relationship of science and diplomacy is a subject which rightly occupies an increasing amount of your time and of mine". Referring to Sir Kingsley Dunham, Foreign Secretary of the Society, who was sitting on his right-hand side, Douglas-Home said:

> If we were on our feet together someone would no doubt call "snap"!:- by rehearsing here the details of your European scholarships scheme and your ambitious programmes of visits to such distant countries as

[1] RS Thompson [HWT 33] 'H W Thompson's personal correspondence as Foreign Secretary, 1965-71', Folder B.524: "The Scientific Club. London Diplomatic Corps". Appleyard was Head of ISRD and UK representative (alongside Vernon of MinTech) to The Scientific Club. He was also the secretariat of the Council for Scientific Policy – International Scientific Relations (at least in 1966) and International Research Facilities (at least in 1968) Committees. RS Thompson [HWT 36] 'Council for Scientific Policy, 1965-71', Folder C.69: [CSP (ISR) (66) 3rd meeting, 5th meeting] and other correspondence in this folder; Folder C.76: [CSP (IRF) (68) 1st meeting - minutes]; TNA Science and Technology Department [FCO 55/505] 'Scientific Counsellors attached to UK Embassies overseas, 1970-71'; Benn T. (1987): *Out of the Wilderness; Diaries 1963-67* (London: Hutchinson), 492; Campbell A. (11th November 2000): "Lord Greenhill of Harrow: Distinguished mandarin who served Britain under three prime ministers", *The Guardian.* Greenhill was a respected expert on the Soviet Union and Eastern Europe, and in some instances "had a profound effect on the formulation of foreign policy". Anon. (11th November 2000): "Lord Greenhill of Harrow: Head of the Foreign Office who in 1971 told the Russians that 90 Soviet diplomats must be expelled for spying", *The Telegraph*; Benn T. (1988): *Office Without Power: Diaries 1968-72* (London: Hutchinson), 208; Brimelow later succeeded Greenhill as Permanent Secretary for Foreign Affairs, 1973-75. Dalyell T. (4th August 1995): "Obituary: Lord Brimelow", *The Independent.* Brimelow was the leading British expert on Soviet affairs. Garthoff R. L. (1985): *Détente and confrontation: American-Soviet relations from Nixon to Reagan* (USA: The Brookings Institution), 337. Brimelow was a "great kremlinologist" and spoke superb Russian. Anon. (11th November 2000): "Lord Greenhill of Harrow", *The Telegraph*; Dalyell (1995). After being made a Life Peer in 1976 he became a Labour whip. Dalyell (1995);
TNA Science and Technology Department [FCO 55/381] 'Meetings with Royal Society to discuss the human environment, 1970': item 8. Arculus was Head of the STD from 19 Jan 1970.

> China. All I will say is that we in the FCO greatly value what the Royal Society does in these fields and the generous advice which we receive from you.[2]

This chapter takes this snapshot as a matter for investigation. In doing so it will explore the role of nationalism in international science, and internationalism in national science in Britain. It looks in particular at the ways in which a shared national agenda (between the government and the Society) was pursued through international science. Firstly, I discuss the evolution of a Royal Society advisory group to the Foreign Office, which provided, amongst other things, an arena for discussing diplomatic problems regarding mainland China. Secondly, I discuss the establishment of the Royal Society European Programme, a scheme to promote scientific interchange in Western Europe in order to combat the 'brain drain' to North America and facilitate British entry to the EEC.

Two particular (and inter-related) contexts provide the background for a shared national agenda between the Society and the British government in this period. The Cold War had created a situation in which the USA and the USSR had harnessed science and technology in an ideological national competition between capitalism and communism. Preoccupation with the improvement of, but also paranoia regarding, East-West relations, was a central concern of foreign policy, and scientific exchanges were acknowledged as a tool of Cold War diplomacy.[3] The harnessing of science and technology by the superpowers meant that European nations needed to collaborate in order to keep pace with these world scientific leaders, because each country could only finance a scientific programme commensurate with their national strength.

John Krige highlights the role of science in foreign policy, arguing that scientific co-operation is often used to establish an alliance between different nations as a prequel to economic and political integration.[4] Jon Agar has recently

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[2] TNA Science and Technology Department [FCO 55/917] 'Relations between Foreign and Commonwealth Office and Royal Society, 1972': items 16 and 17.
[3] See for example: TNA Science and Technology Department [FCO 55/40] 'Importance of East West relations in science, 1968': item 29 – regarding the role of scientific exchanges in improving East-West relations; Benn (1987), 471 – on scientific relations with foreign countries (in this case Morocco) as a way of opening up long-term export possibilities for the UK.
[4] Krige J. (1997): "The Politics of European Scientific Collaboration", in Krige J., Pestre D. (eds) *Science in the Twentieth Century* (Netherlands: Harwood Academic Publishers), 898, 904.

complemented this approach in his paper on Sino-British relations in the 1970s by arguing that scientific relations between the Society and the Chinese Academy were used as a 'vanguard' for political relations between these two countries.[5] In this chapter I explore a similar dynamic in European scientific collaboration, arguing that, in this period, the Royal Society played a major role in helping to establish an economic and political space for Britain in Western Europe. Indeed, as Harold Wilson encouraged Britain, the leading scientific power in Western Europe, to look towards Western Europe for unity, science and technology were key bargaining tools.[6]

In chapter 1 I argued that key figures within the Society appealed to its long history in order to make claims for the 'natural' development, or the nature and values, of science. In a similar manner, at this later junction, Harold Thompson, Foreign Secretary of the Society (1965-71), appealed to internationalism and universalism as inherent qualities in science which underpinned the motivations for international scientific exchange:

> Ever since its foundation more than three centuries ago, the Royal Society of London has, by its actions, expressed a firm belief in the universal nature of science, and its Fellows have sought to maintain contacts with working scientists everywhere.[7]

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[5] Agar J. (2013): "'It's springtime for science': renewing China-UK scientific relations in the 1970s" *Notes and Records of the Royal Society* **67**, 7-24.

[6] Krige (1997), 916.

[7] RS Thompson [HWT 20] 'Western Europe and Israel, 1965-81', Folder B.230: "The Royal Society and Foreign Scientific Relations", Report by H.W. Thompson, 30/09/1967, p1 – a report commissioned by the Central Office of Information, originally titled 'Extending the influence of the Royal Society'.

**Harold 'Tommy' Thompson** (FRS 1946) was a chemist. During WWII he worked for the Ministry of Supply and for the Ministry of Aircraft Production on respirator design, under Cyril Hinshelwood. From 1940 he worked on aviation fuel analysis using infrared spectroscopy. For a decade after the war, he worked on applying infrared spectra to chemical studies. He was Chief Scientific Advisor to the Home Office Civil Defence department for the Southern Region from 1952-1963. Thompson was on the Society's Council almost continuously from 1959-63, and Vice-President 1963-64. He was President of the International Council of Scientific Unions, 1963-66. He was Chairman of the Great Britain-China Committee from 1972 to 1974, and of the Great Britain-China Centre from 1974 to 1980, and a Vice-President from 1980. He was a keen footballer, being on the Council of the Football Association from 1941, Vice-President from 1970 and Chairman from 1976 to 1981. He was said to have a permanent air of pessimism and always complained of being ill. Richards R. (1985): "Harold Warris Thompson. 15 February 1908-31 December 1983", *Biographical Memoirs of Fellows of the Royal Society* **31**, 575-576, 579, 596, 598-599, 601.

I present a different account that explores how the Society, in collaboration with the British government, pursued a nationalistic agenda through international science. This account will provide a British complement to Krige's (2006) argument about the US government and the Rockefeller and Ford Foundations in *American Hegemony and the Postwar Reconstruction of Science in Europe*: that a mutual political agenda between the British government and the Royal Society regarding foreign policy was delivered undercover of an apolitical programme, made possible due to the independent image of the Society.[8]

## 3.2 Relations between the Royal Society and the British government

### 3.2.1 A national network for international science and diplomacy

The 1972 dinner represented in microcosm the network of people and departments for international science and diplomacy in the period 1964-72. The key government departments were the International Scientific Relations Division (ISRD) of the DES, the Science and Technology Department (STD) (previously the Scientific Relations Department) of the FCO, parts of the Department of Trade and Industry previously in the Ministry of Technology (including from 1970 the responsibility for Scientific Counsellors, previously in the Ministry of Technology (briefly) and before that DES), H. M. Ambassadors, High Commissioners, Scientific Attaches/ Counsellors abroad (the Diplomatic Service), and the Royal Society.[9]

In justifying the Society's dinner to Douglas-Home's Private Secretary, John Ure (STD, FCO) commented that, "In recent years the FCO have benefitted from an increasingly close and cordial relationship with the Royal Society who have generously made available to us the advice of leading scientists". Ure reasoned that the dinner would enable the Society to extend their network of contacts to

[8] Krige J. (2006): *American Hegemony and the Postwar Reconstruction of Science in Europe* (Massachusetts Institute of Technology Press), 75-76.

[9] The Scientific Relations Department/ Science and Technology Department dealt with broad questions of East-West relations in science. TNA Science and Technology Department [FCO 55/40]: item 29.
The British Council are also allied with this group and may too have been represented at the dinner.
For a discussion of the role of Scientific Counsellors, see chapter 2, footnote 113.

scientific and cultural attaches and that this was something they would "wish very much to encourage".[10] In fact, the Society was already involved in briefing Scientific Counsellors for their posts, and Thompson had personal contact with individual Scientific Counsellors.[11]

Following the Trend Committee Enquiry into the administrative organisation of civil science, published October 1963, the Officers had felt that the Society was being increasingly excluded from the inner circle of national science in both advisory and executive capacities. Some of its previous and historic responsibilities had been taken from them and given to other science bodies more closely under government control, such as the Research Councils (including the new Science Research Council) and the University Grants Committee. The main area left for the Society to occupy was the promotion of non-governmental international scientific co-operation.[12] Nevertheless, its roles in this area brought the Society into very close contact with a number of government departments.

The Society was the UK-affiliated body to the International Council of Scientific Unions, and to UNESCO. The RS-Ministry of Overseas Development Joint Committee on UNESCO brought them into contact with representatives of the Ministry of Technology (MinTech), DES, FCO, the British Council and the Centre for Educational Development Overseas.[13] The Society also held responsibility for direct relations with overseas national science academies and formal inter-governmental scientific exchange agreements with the USSR and Eastern Bloc countries (China, Poland, Hungary, Rumania) which brought them into frequent contact with the Cultural Relations Department, East-West Contacts

[10] TNA Science and Technology Department [FCO 55/917]: item 1, J. Ure (STD) to Private Secretary to the Secretary of State for Foreign and Commonwealth Affairs, 14/06/1972.
[11] For example, see RS Thompson [HWT 9] 'Department of Education and Science, 1967-70' Folder B.179: especially Thompson to Appleyard, 07/08/1967; RS Thompson [HWT 33] Folder B.523: "Scientific Counsellors Conference 1967, Meeting a.m. Tuesday, 26th September, DES Richmond Terrace: International exchanges in science and technology", ISRD, 14/11/1967; Folder B.525: Alan Smith, Scientific Counsellor, Paris, to Thompson, 14/07/1969. Here, Smith mentions that science exchange schemes are a very important feature of foreign relations.
[12] Collins P. (2010): "A role in running UK science?" *Notes and Records of the Royal Society of London* **64,** 121-122, 125-126.
[13] For examples of RS-ODM meetings see: TNA Science and Technology Department [FCO 55/381]: items 18-19, 25.

Department and individual geographical departments in the FCO, as well as the Ministry of Overseas Development and the British Council.[14]

The Society provided funding for international research stations, travel grants to support British scientists abroad, visiting professorship schemes and expeditions.[15] It was represented on the UK Committee on CERN, and since the thirty year Antarctic Treaty prohibited any discussion of territorial claims to Antarctica, The Society's British National Committee on Antarctic Research had acted as an advisory body to the High Commissioner of the British Antarctic Territory since 1962.[16]

Fellows also appeared in other governmental arenas in an individual capacity, including the House of Lords. In this period, Blackett and Ashley Miles (Biological Secretary, 1963-68) were both advisors to the FCO in an individual capacity, Blackett was Chief Scientific Adviser to MinTech and Thompson had a diplomatic role in the Anglo-Soviet Consultative Committee (more on this in chapter 5).[17]

Yet perhaps the most important site for representatives of the Society to meet with the national network for international science was the Council for Scientific Policy (CSP), which was established in 1965 to advise the Secretary of State for Education and Science.[18] Contacts made in the CSP, particularly with Audland

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[14] TNA Science and Technology Department [FCO 55/7] 'Foreign policy and relations with learned societies, 1967': items 1-3.
Scientific exchanges with Eastern Bloc countries were mostly funded through the Foreign Office's 'Information Vote'. TNA Science and Technology Department [FCO 55/233] 'Steering brief for Mr. Mulley's meeting with the Royal Society, 1968-69': items 5, 9, 13 - p12.

[15] The visiting professorship schemes included the Leverhulme Visiting Professorships Scheme, recently extended by means of support from ODM as well as the Leverhulme Trust.

[16] TNA Science and Technology Department [FCO 55/7]: items 1-3; RS Thompson [HWT 36] Folder C.66: Blackett to Massey, 28/01/1966.
The Society had also provided some advice to the Foreign Office and the Council for Scientific Policy (CSP) on the scientific value of Antarctic work. RS Thompson [HWT 36] Folder C.65: "Notes on a meeting 10/12/1965 between PRS, Foreign Secretary of the Royal Society, the Chairman of the CSP and others", prepared by Keay - to review international scientific activities inside and outside government.

[17] TNA Science and Technology Department [FCO 55/233]: 'Steering brief for Mr. Mulley's meeting with the Royal Society, 1968-69': Attached to item 15, "The Royal Society", J.C. Thomas to C.J. Audland, 30/04/1969; Benn (1987), 520.

[18] The CSP was a descendant of the Advisory Council for Scientific Policy (1947-64), which was in turn a descendant of the Scientific Advisory Committee to the War Cabinet (est. 1940). It was subsumed into the Advisory Board to the Research Councils in 1972.

and Appleyard were central to continuing informal relations between the government and the Society.

The predecessor body to the CSP, the Advisory Council on Scientific Policy (ACSP), particularly its Committee on Overseas Scientific Relations, and its Committee on International Scientific Co-operation, brought representatives of the Society into contact with representatives of the Research Councils, the University Grants Committee, DES, MinTech, FO/FCO, Ministry of Defence, Ministry of Overseas Development, the Treasury, and the Cabinet Office. Brian Balmer et al and Peter Collins argue that the Society had not had a cordial relationship with the ACSP because they felt that it provided a rival source of advice for the ear of government. Indeed, Howard Florey and Martin had argued for the creation of the new CSP.[19] The Society's written submission to the Trend enquiry hinted at the abolition of the ACSP in favour of a new Civil Science Board with a wholly independent membership, thus excluding Research Council representation.[20]

The CSP was seen as an opportunity for a fresh start, and the new Chairman, Sir Harrie Massey FRS, was keen to establish a close and congenial relationship with the Society. Massey's biographer notes that he felt a strong affinity with the Society: "The Society's interests were his interests". On stepping down from the position in 1965, Massey became Physical Secretary and Vice-President of the Society until 1978.[21] Continuities with the ACSP with regard to international scientific activities inside and outside Government, were discussed at a meeting between Massey, Blackett (PRS), Thompson, Martin, and representatives of the CSP and the DES on 10 December 1965. The meeting arose from Massey's suggestion to Martin that there should be close co-operation between the CSP and the Society in international scientific affairs. Under new CSP arrangements, the

[19] Balmer B., Godwin M., Gregory J. (2009): "The Royal Society and the 'brain drain': natural scientists meet social science", *Notes and Records of the Royal Society of London* **63**, 339; Collins (2010), 125.
[20] Collins (2010), 124.
[21] Bates D., Boyd R. (1984): "Harrie Stewart Wilson Massey. 16 May 1908-27 November 1983", *Biographical Memoirs of Fellows of the Royal Society* **30**, 497.
**Harrie Massey** (FRS 1940) was on the Society's Council twice (1949-51, 1959-60), and later Physical Secretary of the Society and Vice-President (1969-78). He reportedly played a decisive role in the Society's affairs as Physical Secretary, especially during the period of the Rothschild report and in the wake of Sir David Martin's death in 1976. He was knighted in 1960. Bates, Boyd (1984), 497, 501.

Society's advice would not only be sought when civil servants thought it appropriate, as previous Fellows felt had happened in the ACSP; Blackett and Massey agreed that there should be a CSP committee on international matters with a strong Royal Society representation.[22] A CSP Working Party on International Scientific Relations (WPISR) was established in January 1966.[23]

Along with John Kendrew, Blackett, Thompson, Martin and Ronald Keay (Deputy Executive Secretary of the Society) represented the Society on the WPISR and its successor, the Standing Committee on International Scientific Relations (ISR). This was attended variously by representatives of the DES, MinTech, FO/FCO, the Medical Research Council (MRC) and the Science Research Council (SRC).[24] Thompson was also on the CSP Working Group on International Research Facilities, set up in 1968, which brought him into close contact with British policy towards Europe, particularly MinTech policies towards the EEC.[25] The following episode regarding Royal Society-Cuban relations provides an insight into the CSP as a facilitator in the national network for international science.

### 3.2.2 The CSP as a facilitator in the network

Following a Royal Society delegation to Latin America in 1968, the Society was keen to formalise an arrangement in which scientific exchanges of mutual benefit could take place with Cuba, and Cuba was anxious to obtain help from Britain in

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[22] RS Thompson [HWT 36] Folder C.65: "Notes on a meeting 10/12/1965 between PRS, Foreign Secretary of the Royal Society, the Chairman of the CSP and others", prepared by Keay; Folder C.67: "Position of the Society in relation to government arrangements for international scientific affairs, minute 2(d) of 16 December 1965", 13/01/1966; "minute 2(a) of 30 November 1965", 16/12/1965.

[23] The proposal to establish the WPISR was aired at a further meeting held on 7th January 1966 in Massey's office, with representatives of the CSP, the DES and the FO, with Keay representing the RS. RS Officers' Minutes [OM/ 8(66)]: 'Position of the Society in relation to Government arrangements for international scientific affairs: report by the Deputy Executive Secretary of meeting held on 7 January 1966 in Sir Harrie Massey's Office'. Copy in RS Thompson [HWT 36] Folder C.66.
The CSP was later chaired by Sir Frederick Dainton FRS (a pupil of Thompson's at Oxford). Richards (1985), 574.

[24] RS Thompson [HWT 36] Folder C.68: [CSP (ISR) (66) 2nd meeting]; [CSP (ISR) (66) 3rd meeting]; Folder C.70: [CSP (ISR) (66) 5th meeting]; Richards (1985), 592.

[25] Later, Thompson was also the Chairman of the CSP Working Party on Scientific Interchange (set up by the CSP's Standing Committee on International Scientific Relations in July 1969) to review the Royal Society European Programme. RS Thompson [HWT 36].

the training of scientists. At a meeting of the CSP (ISR) in June/July 1969, Keay sounded out Christopher J. Audland (head of STD, FCO) about the possibility of Britain reaching a Cultural Convention agreement with Cuba. Subsequently, Audland put out the feelers in the FCO with colleagues in the Latin American Department. His initial memo eventually wound up in the hands of Mr. Charles D. Wiggin in the American Department who struck the final blow two weeks later.[26] The prospect of increasing Anglo-Cuban relations or providing scientific aid to Cuba was too "politically sensitive vis-à-vis the United States".[27] This had occurred not too long after the 1962 Cuban Missile Crisis, and the American Department was in the process of fielding pressure to provide technical assistance and aid to Cuba. A new scientific exchange agreement at that time had the potential to encourage further pressure on that front. Wiggin suggested that Audland should inform Keay that Britain would not contemplate an agreement with Cuba at present, but that the Society must make their own judgement whether or not to formalise relations with Cuba. However, before Audland could deliver the news, Keay, perhaps aware that the cause for frustration lay in the American Department, had gone direct to Wiggin and arranged a meeting between Wiggin, Thompson, Martin and himself at which the government position would be set out.[28]

There was clearly some hesitancy in the Society over taking action regarding Cuba, as the Officers had previously asked the FCO, in a meeting of the advisory group (described below) in April 1969, whether there were any objections to the Society sending a delegation to Cuba and were told there were none.[29] Yet, the Society decided to go ahead with the Cuban exchange agreement, as was noted by the Prime Minister in a speech given at a "working dinner" for representatives of

[26] Sir Charles D. Wiggin was a Counsellor in Iran, 1965-69, and later Head of the American Department, 1970-71. *A Directory of British Diplomats, 1900-2011*, p39.
[27] TNA Science and Technology Department [FCO 55/233]: item 40, C. D. Wiggin (American Dept) to Mr Stewart (Cultural Relations Dept), 17/07/1969.
[28] TNA Science and Technology Department [FCO 55/233]: item 40, Audland to Miss McBride (Latin American Dept), 03/07/1969; Audland to Mr Denison-Edson (Latin American Dept), 03/07/1969; C. D. Wiggin (American Dept) to Mr Stewart (Cultural Relations Dept), 17/07/1969; Stewart (?) to Audland, 18/07/1969; Audland to Wiggin, 18/07/1969; Wiggin to Audland, 21/07/1969 (?).
[29] TNA Science and Technology Department [FCO 55/233]: item 20.

the Society at 10 Downing Street on 12 February 1970.[30] The Society told the FCO in a meeting in February 1971, that the agreement was still pending as Cuba had gone quiet.[31] Society records do not show when exactly the agreement was initiated, and what role, if any, the government played.

This episode is illuminating of a number of issues. As well as hinting at the predominance of American appeasement in internal negotiations at the FCO, it shows, in contrast to episodes described later in the chapter, that although the Society were wary of taking action that might be at odds with the government's foreign policy, they were willing to go ahead with their preferred course of action nevertheless. It also gives an idea as to the speed with which Keay could receive inside information from his contacts in the FCO.

### 3.2.3 The Royal Society Science Advisory Group to the FCO

The Foreign Office had been toying with the idea of having its own scientific advisor or advisory group since at least August 1966. In 1961, at the request of the Foreign Office, David Martin submitted a paper, *Scientific Progress and Foreign Policy*, which suggested the establishment of a small advisory committee, with representatives from the Foreign Office, Commonwealth Relations Office and the Royal Society, in order to keep the Foreign Office abreast of scientific developments of relevance to foreign policy. The paper acknowledged the "useful political overtones" of international scientific exchanges, particularly with the USSR, and the great importance of maintaining Britain as a "scientific Mecca".[32]

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[30] RS Thompson [HWT 33] Folder B.528: "Visit of Royal Society Councillors as guests to The Prime Minister at 10 Downing Street, 7.30 pm Thursday, 12 February 1970". At this dinner, the PM suggested that the Royal Society might usefully take steps to do some fact-finding about problems of European co-operation and produce a memorandum on the subject. Present were the Society's Officers, David Martin, Minister of Technology Tony Benn MP, Secretary of State for Education and Science Edward Short MP, Gerald Fowler MP (Minister, DES), Ernest Davies MP and Solly Zuckerman amongst others. They discussed international scientific relations, and the future of tertiary education in the UK.

[31] TNA Science and Technology Department [FCO 55/639]: item 8, p6.

[32] RS Officers' Minutes [OM/ 6(61)] 'Scientific Progress and Foreign Policy: Note by D. C. Martin', p2. This document was submitted in response to Sir Paul Gore-Booth's (Permanent Under-Secretary, Foreign Office, 1965-69) request for some notes on "the interaction between progress in science and technology and national foreign policy". Martin specifically suggested a small advisory committee, meeting two-four times a year, composed of three independent scientists and technologists, three senior representatives of the Foreign Office and one of the Commonwealth Relations Office. The Society should be invited to suggest appropriate members.

A meeting took place the same year between the Officers of the Society and several officials in the Foreign Office, but the momentum to continue this contact was lost. Mr. John A. Thomson (Head of Planning Staff, FO) believed that this was simply because no-one took the initiative, and the meeting itself was insufficiently prepared, leading to diffuse discussion.[33]

In August 1966, J.A. Thomson suggested to Sir John Nicholls, Deputy Under-Secretary for Information and Culture, FO, that a Foreign Office science advisory group should be established because of the immense importance of science to foreign relations, and in order to keep a step ahead of economic competitors in scientific developments. J.A. Thomson suggested that, whilst a science advisor of their own would be beneficial, a Royal Society advisory group would be even better. The potential value of such a group, he argued, was demonstrated by the fact that the Society had known about Sputnik before the launch, but had not realised the potential propaganda benefits that the Russians would draw from it. David Martin had mentioned this specifically in his 1961 paper.[34] It is interesting that Sputnik still had traction almost a decade later.

In March 1967, J.A. Thomson met Blackett (incidentally a friend of his father's) at a meeting of Minister of State (FO) Lord Chalfont's group of outside experts on disarmament.[35] They talked about the idea of the Society advising the Foreign Office in forward planning and Blackett was favourable to the idea. Subsequently, J.A. Thomson agreed to meet with Blackett three days later at the Royal Society. In the meantime he consulted with Mr. Edward G. Willan, Head of the Scientific Relations Department (FO) and Sir John Ogilvy Rennie, Deputy Under-Secretary

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Alternatively, the appointment of a Foreign Office liaison officer to the Society could be considered. pp5-6; Young J. W. (2003a): *The Labour Governments 1964-70 Volume 2: International Policy* (GB: Manchester University Press), 7.

[33] TNA Scientific Relations Department [FCO 55/7]: especially item 2-E1, "Science and Foreign Policy", J.A. Thomson, 05/08/1966.

[34] TNA Scientific Relations Department [FCO 55/7]: especially item 2-E1, "Science and Foreign Policy", J.A. Thomson, 05/08/1966. RS Officers' Minutes [OM/ 6(61)] p2.

[35] Lord Chalfont, formerly Alun Gwynne-Jones, was Minister of State, FO, 23/10/1964 – 19/06/1970. Butler D., Butler G. (1986): *British Political Facts 1900-1985*, 6th Edition (Hong Kong: Macmillan Press Ltd.), 46. He was Minister for Disarmament, 1964 - May 1967. Young (2003a), 9. He would have been responsible for EEC negotiations in Britain's second application (had they taken place). Barclay (1972), 102. He was well-informed on the Common Market and a great defence expert. He was privy to information from Harold Wilson not afforded to George Brown (Foreign Secretary). Benn (1987), 511, entry on 23/09/1967.

for Information and Culture (FO) and soon-to-be Chief of the Secret Intelligence Service/ MI6 (1968-73).[36]

J.A. Thomson and Blackett agreed that the Society could most usefully contribute to foreign policy by alerting the Foreign Office to ideas and developments on the horizon, i.e. forward planning. For whatever reason, this initiative also fell by the wayside; Blackett later complained that it had been difficult to maintain contact due to the high turnover of staff in the FO/FCO.[37]

It was not until 1969, at Blackett's initiative, that stronger channels of exchange between the Society and the FCO were formalised, with the establishment of the Royal Society Science Advisory Group to the FCO (hereafter the SAG). It was the Society's delegation to Latin America in 1968 that provided the impetus for the series of events that led to its establishment. After the visit, Minister of State (FCO) Mr. Goronwy Roberts of the Latin American Department wrote to Blackett to express his gratitude for the Society's work in Latin America. Blackett used this opportunity to impress upon Roberts his desire to discuss all of the foreign activities of the Society with the FCO.[38] This was followed up by George E. Hall in the STD who suggested to Minister of State Fred Mulley's Private Secretary that, whilst the STD already had frequent contact with the Society through the CSP (ISR), and could contact them directly on specific questions, regular contact at a higher level would be useful.[39] Just three months previously, Hall had been in consultation with John C. A. Roper (UK Delegation to the Organisation for Economic Co-operation and Development (OECD), Paris), Appleyard (ISRD,

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[36] TNA Scientific Relations Department [FCO 55/7]: item 1 "Meeting with Professor Blackett", J.A. Thomson, 10/03/1967, copied to Mr Willan, Sir J. Rennie and Mr Garvey; item 2 "Your minute 10 March: Meeting with Professor Blackett", E.G. Willan to J.A. Thomson, 13/03/1967, copied to Sir J. Rennie and Mr Garvey.

[37] TNA Scientific Relations Department [FCO 55/7]: item 2 "Your minute 10 March: Meeting with Professor Blackett", E.G. Willan to J.A. Thomson, 13/03/1967, copied to Sir J. Rennie and Mr Garvey; TNA Scientific Relations Department [FCO 55/233] item 24, C.J. Audland, 05/05/1969. See also: TNA Scientific Relations Department [FCO 55/7]: item 3 "Relations with the Royal Society", E.G. Willan, 16/03/1967.

[38] TNA Science and Technology Department [FCO 55/233]: item 1, Roberts to Blackett, 25/11/1968; item 2, Blackett to Goronwy Roberts, 10/12/1968.

[39] TNA Science and Technology Department [FCO 55/233]: item 3, G.E. Hall to Mr Mulley's Private Secretary, 22/01/1969.
Fred Mulley MP was a Minister of State in the FCO from 07/01/1967 until 06/10/1969 when he became Minister of Transport. Butler D., Butler G. (1986), 46, 48; Mulley was the Minister responsible for general scientific and technological questions in the FCO. TNA Science and Technology Department [FCO 55/233]: item 4; Mulley was Minister for Disarmament from May 1967. Young (2003a), 9.

DES) and John Stewart (MinTech) about the value of scientific exchanges to Cold War diplomacy, using the Royal Society exchanges with the Soviet Union as an example of the type of exchanges which were successful. By this he meant that under these exchanges, Britain gained *reciprocal* technical advantage rather than a net loss of technical information to the Soviet Union.[40]

Fred Mulley welcomed the proposal and wrote to Blackett in January 1969 to set the wheels in motion for a meeting. The first meeting took place on 25 April at the FCO. Present were Blackett (PRS), Bawden (Treasurer), Lighthill (Physical Secretary), Thompson (Foreign Secretary) and Keay (Deputy Executive Secretary) from the Royal Society, and Mulley (Minister of State), Williams (Private Secretary to Mulley), Brash (East-West Contacts Department), Audland and J.C. Thomas (STD) from the FCO.

At the meeting, Blackett stressed that the contact between the FCO and the Society was insufficient, and that it was important for the FCO to be kept in touch with developing scientific opinion. In his view, a general discussion should take place between the two at least once every six months. Another possible method of improving contact would be to increase the number of FCO representatives on the CSP (ISR). Thompson on the other hand, commented that the Society had enjoyed excellent co-operation with the FCO in the past, but there remained a need for the FCO to look ahead in scientific issues. Therefore, he saw merit in an informal Science Advisory Group, drawn from the Royal Society, to give the FCO informal advice on general rather than technical questions, and on the many international aspects of science.[41] Thompson's idea of an informal advisory group with a forward planning element was embraced.

There were many outcomes of the meeting. J.C. Thomas (STD) spoke to the Far East Department, that in turn approached the Japanese Embassy, whose staff arranged for a representative of the Society to meet a Japanese Foreign Minister at an Embassy reception in May in order to open contacts with Japan. Thompson and Lighthill drafted a report on the value of Scientific Counsellors which J.C. Thomas forwarded to Sir John H.G. Leahy, Head of the Establishment and

[40] TNA Science and Technology Department [FCO 55/40]: item 29, 23/06/1968.
[41] TNA Science and Technology Department [FCO 55/233]: item 20.

Organisation Department (FCO) in order for it to be considered by the Duncan Committee (reviewing the role and value of Scientific Counsellors). Mulley spoke to the Treasury about tax exemption for visiting scientists on the RSEP, and to the DES about the value of Scientific Counsellors. Audland (STD) spoke to Appleyard (ISRD, DES) about the value of promoting informal relations with the Royal Society. Audland confirmed that he could take more members of the FCO to CSP meetings if the agenda warranted it, in order to increase informal contacts with the Society. J.C. Thomas sent a copy of the "Aigian" report, probably the Aigrain report on areas for scientific co-operation between EEC member countries and applicant countries, to Keay, and a list of scientific representatives overseas. Mulley undertook to consider the establishment of the informal Royal Society advisory group to the FCO.[42]

Audland suggested that an appropriate precedent for the SAG would be Mulley's Disarmament Advisory Panel. As such it should be informal and ad hoc, at no fixed interval, with neither formal agenda nor record. It should consist of FRSs and officials of the FCO with individuals on both sides fielded according to the agenda. Solly Zuckerman and Dr. Press of the Cabinet Office would also be invited. The idea was that the SAG should keep the FCO in touch with scientific thinking on questions of international scientific significance, especially "new frontier" subjects like the sea-bed and the human environment.[43] The SAG met over lunch and this element of informality was frequently acknowledged as a facilitator of useful discussion with the Society.[44]

The arrangements for subsequent meetings of the SAG were formulated over lunch between Audland and Keay. The outcome was to have a further lunch in order for Audland to meet Martin. Audland's objective on this occasion was to follow up on the forward planning idea suggested by Harold Thompson at the meeting on 25 April, namely that the Society could provide the FCO with some foresight into the scientific questions which might translate into political problems in the future. This 'Forward Look' idea was, at least in Audland's view, the major

[42] TNA Science and Technology Department [FCO 55/233]: items 15, 20.
[43] TNA Science and Technology Department [FCO 55/233]: items 15, 20.
[44] For example, see TNA Science and Technology Department [FCO 55/233]: item 15; Mulley to Blackett, 07/05/1969; item 20 p4; TNA Science and Technology Department [FCO 55/639]: item 7, Ure to Brimelow, 09/02/1971.

outcome of the lunch with Martin and Keay. This, Audland wrote to his colleague, J.C. Thomas, in the STD, would help the FCO to allocate work between departments and to ensure that "the right people were in the right places at the right time, both at home and abroad". It would also avoid further embarrassment for the FCO, such as when the sea-bed question "suddenly and unexpectedly" emerged as a major subject for discussion at the United Nations in New York. During lunch, potential subjects for discussion were identified, and the 'human environment' was chosen as the subject of the next meeting, to take place in October.[45]

The SAG survived a Cabinet re-shuffle on 6 October 1969, when Minister of State Lord Chalfont assumed Mulley's responsibilities.[46] Perhaps more significantly it survived a change of government to Ted Heath's Conservative Government on 19 June 1970.[47] It also survived a change of PRS on 1 December 1971 to Alan Hodgkin, and graduated changes of other Officers.[48] Under the new Government, meetings of the SAG continued under Lord Lothian, Parliamentary Under-Secretary of State in the FCO.[49]

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[45] TNA Science and Technology Department [FCO 55/233]: items 28, 29, 56, 57.

[46] See footnote 35 for background on Chalfont; The Chalfont meeting on 13 January 1970 was attended on the RS side by Blackett (PRS), Bawden (Treasurer), Thompson (Foreign Secretary), Massey (Physical Secretary), Clapham (Emiritus Professor of Botany, Sheffield), Dr. Kronberger (Head of Research at the UK Atomic Energy Authority), Dr. Lucas (Director of Fisheries Research, Scotland and Director of Marine Cab (?), Aberdeen), Dr. Mason (Director-General Met Office), Martin (Executive Secretary) and Keay (Deputy Executive Secretary). Representing the FCO were Lord Chalfont (Minister of State), Mr. Tait (Private Secretary to Lord Chalfont), Audland (Head STD), Arculus (Head STD with effect 19 Jan 1970), Mr. King (UN (Economic and Social) Department), Mr. Britten (Trade Policy Department), Mr. Waterfield (Western Organisations Department), Mr. Cradock (Planning Staff), Mr. Thomas (STD), and Mr. Wheeler (STD). TNA Science and Technology Department [FCO 55/234] 'Steering brief for Mr. Mulley's meeting with the Royal Society, 1969', items 63, 66, 68; TNA Science and Technology Department [FCO 55/381]: items 1-2, 7-9.

[47] Butler D., Butler G. (1986), 50.

[48] Foreign Secretary: Thompson 1965-71; Dunham 1971-76. Biological Secretary: Miles 1963-68; Katz 1968-1976. Physical Secretary: Lighthill 1965-69; Massey 1969-1978. Treasurer: Fleck 1960-68; Bawden 1968-1972; Menter 1972-76.

[49] The Lothian meeting on 12 February 1971 was attended on the RS side by Hodgkin (PRS), Thompson (Foreign Secretary), Massey (Physical Secretary), Katz (Biological Secretary – just for lunch), Dr. Lucas (Director of Fisheries Research, Scotland (?)), Martin (Executive Secretary) and Keay (Deputy Executive Secretary). Representing the FCO were Lord Lothian (Parliamentary Under-Secretary of State), Mr. Godden (PS to Lothian), Brimelow (Deputy Under Secretary of State), Mr. Morgan (Head, Far East Department), Mr. Ure (Assistant Secretary, STD), Mr. MacInnes (Assistant Secretary, UN (Ec. and Soc.) Department), Mr. Wheeler (STD) and Mr. Gowlland. TNA Science and Technology Department [FCO 55/381]: items 28-31; TNA Science and Technology Department [FCO 55/639] 'Minutes of meeting between representatives of the

The meetings were quite high profile, with Sir Thomas Brimelow, Deputy Under-Secretary of State for Foreign Affairs and the leading British expert on Soviet affairs, requesting to attend the meetings after he heard about them in January 1970.[50] Contrary to Blackett's hopes of a biannual meeting, there was only one meeting of the SAG held per year on average, meaning that one meeting took place under each Minister/ Under-Secretary.

The contacts opened up by the SAG were facilitative. Among those issues discussed were: the prospect of another Royal Society Commonwealth Scientific Conference, which led to an opening of contact between the Society and the Commonwealth Co-ordination Department (FCO); the extent to which the West European exchanges should grow, which led to Mulley arranging a meeting between the Society and the many Departments involved in missions in Western Europe; the prospect of developing Royal Society exchanges with Yugoslavia and Cuba; bilateral relations and problems with Eastern European countries and the Soviet Union; the withdrawal of Canada from the Royal Society Commonwealth scheme and the Society's attempts to discourage them; the UNESCO apartheid policy; the desire to increase British impact on Latin America and, in that context, Mexico's potential for scientific growth.[51]

### 3.2.4 The Royal Society and Communist China

One major area for discussion within the network, both inside and outside meetings, was relations with Communist China. Discussions were couched in

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Foreign and Commonwealth Office and Royal Society, 12 February 1971', especially item 8; Butler D., Butler G. (1986), 51.

[50] Brimelow later succeeded Greenhill as Permanent Secretary for Foreign Affairs, 1973-75. Audland and Arculus both attended the Chalfont meeting during a period of crossover as Arculus took over as Head of the STD. It is not clear whether the meetings continued after 1971. TNA Science and Technology Department [FCO 55/381]: item W10; TNA Science and Technology Department [FCO 55/639].

[51] TNA Science and Technology Department [FCO 55/233]: items 15, 20, 29; TNA Science and Technology Department [FCO 55/639]: especially item 8.
The UNESCO resolution sought to cut off relations with any NGOs in South Africa who co-operated in the apartheid policy, putting the Society in an impossible position as both the adhering body to UNESCO and to ICSU (who, according to Martin and Thompson, wished to sustain relations with South Africa). Thompson and Martin stressed that if ICSU were eventually faced with cutting relations with one body, they would choose to cut relations with UNESCO rather than countenance discrimination against South Africa, even though it would mean losing the UNESCO subsidy. TNA Science and Technology Department [FCO 55/639]: item 8.

explicitly national terms regarding trade, exports and commercial opportunities.[52] On one occasion Martin also reported intelligence on Canadian exchanges with China.[53] These discussions highlight more so than other areas a shared national agenda and the strong influence of the FCO on the Society. The following episode illustrates this dynamic well.

The Chinese national science academy, the Academia Sinica was founded in mainland China in 1928. The Chinese Civil War (1927 – 1949/50), which was fought between Nationalist and Communist factions, culminated in a Communist victory on the mainland for the People's Republic of China (PRC). The (Nationalist) Republic of China (ROC) subsequently relocated their Government to Taipei in Taiwan and both parties continued to claim that they officially represented all of China.[54]

The Society had maintained amicable relations with the Academia Sinica (AS) since at least 1959.[55] From 1964-67, twenty-eight Chinese research workers had been placed in various British laboratories and private companies for periods up to two years under arrangements between the Society and the AS.[56] The Chinese workers were criticised for being ungracious to the Society and their hosts, and further problems with the AS arose in 1966 when some of the workers were suddenly withdrawn without reason or notification.[57] In January 1967 the

[52] For example, see: TNA Science and Technology Department [FCO 55/639]: items 7 and 8 – pp3-7.
[53] TNA Science and Technology Department [FCO 55/639]: especially item 8.
[54] The ROC/ Taiwan claimed that Academia Sinica was 'moved' to Taipei in 1949, yet the PRC continued to call their national science academy by the same name. In the 1960s in discussions between the Society and the British government, 'Academia Sinica' meant the academy in mainland China. 'Academia Sinica' is now the national academy for Taiwan whilst the original Academia Sinica on mainland China is now known as the 'Chinese Academy of Sciences'.
[55] It is unclear when the Society first established relations with the AS. Cyril Hinshelwood (PRS) visited in 1959. A second delegation in 1962 consisted of Gordon Sutherland and Harold Thompson. Agar (2013), 9.
[56] The exchange agreement was originally conceived as more of a two-way arrangement. However, only three British scientists were able to go over in exchange for brief periods and were given limited access to facilities.
RS Thompson [HWT 33] Folder B.524: Thompson to Harrison Brown (NAS), 21/11/1968; TNA Science and Technology Department [FCO 55/639]: item 7. The latter reference reports the number of Chinese researchers as 33.
[57] TNA Science and Technology Department [FCO 55/639]: item 7 "FCO talks with the Royal Society" + attached "The re-establishment of scientific relations with China: Speaking Notes and Background", Ure (STD) to Brimelow, Morgan (Far East Dept), McInnes (UN (Economic & Social (?)) Dept), Wheeler (STD), Godden (Private Sec to Lothian), 09/02/1971; RS Thompson [HWT 33] Folder B.522: John C. Polanyi (Professor of Chemistry, University of Toronto) to

remaining workers were suddenly recalled by the Chinese Charge d'Affaires to take part in the Cultural Revolution.[58] When they departed, according to the STD, they left behind a "cloud of illwill" towards China at the Royal Society.[59] In response, in November 1968, following a special meeting of Officers, the Society refused to take part in a meeting in Canada in which the Chinese might also take part. Thompson commented privately to Harrison Brown of the US National Academy of Sciences that "we do not think that at present we should take special steps to start up relations again".[60]

The following year, when Martin and Audland (Head, STD) met on 7 October 1969, Martin raised the possibility of the Society making arrangements to help some Taiwanese students to come to Britain for postgraduate studies. Martin wanted to know, before the matter was considered within the Society, whether there were any political objections to helping the Taiwanese, and whether the FCO thought that this would ruin their chances of re-establishing contact with the Peking authorities in the future.[61] The same day Audland addressed a minute to the Far Eastern Department (FCO) about the matter. The response, drafted by J.D.I. Boyd, following consultation with his colleagues in the Far Eastern and East-West Contacts Departments, was decisive:

> We should have the strongest objections to any arrangement formal or informal that tied the Royal Society to the Nationalist chariot. […] this would gravely endanger if not finish outright any chances the Society

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Thompson, 28/11/1966; Thompson to J. C. Polanyi, 05/12/1966. Polanyi had enquired about the degree of scientific exchange with the People's Republic of China (PRC). He had recently written to the Minister of External Affairs in Canada to ask whether the Minister would consider following up his recent UN initiative (to replace Nationalist China (ROC) with the PRC on the Security Council) by at least negotiating a scientific exchange agreement with mainland China. Thompson reported a change for the worse in the Chinese attitude in the past six months, mentioning the withdrawal of a number of young men without reason.

[58] RS Thompson [HWT 20] Folder B.230: Report by H. W. Thompson, Sep 1967, p5 (untitled document following "The Royal Society and Foreign Scientific Relations"). It is perhaps an earlier draft or previous incarnation of similar material.

[59] TNA Science and Technology Department [FCO 55/639]: item 7 "FCO talks with the Royal Society" + attached "The re-establishment of scientific relations with China: Speaking Notes and Background", Ure (STD) to Brimelow, Morgan (Far East Dept), McInnes (UN (Economic & Social (?)) Dept), Wheeler (STD), Godden (Private Sec to Lothian), 09/02/1971.

[60] RS Thompson [HWT 33] Folder B.524: Thompson to Harrison Brown (NAS), 21/11/1968.

[61] TNA Science and Technology Department [FCO 55/234]: item 76, Audland to Martin, 31/10/1969.

> may have of re-establishing contact with the Academia Sinica in Peking.[62]

For the FCO, good relations between the Society and the AS in Peking were "worth a considerable price", and as Audland subsequently wrote to Martin, the Society was strongly supported in the past to get on good terms with the AS because bringing the Chinese out of their shell was "close to the heart of our China policy".[63]

Boyd's decisive tone may have derived from the fact that Martin had made no reference to correspondence earlier in the year between the Society and the East-West Contacts Department of the FCO, where they learnt that the PRC might soon wish to resume contacts, and the Society was asked to inform the FCO of any approach made from Peking. Boyd expressed chagrin to Audland that Martin may have conveniently forgotten this gentleman's agreement made regarding Royal Society-China relations.[64] Although Audland toned down the language used by Boyd, he paraphrased key sentences of the document in relaying his reservations to Martin.[65] The response on the Society's side was equally decisive; Martin replied that the Society was in "full agreement" that arrangements regarding the Taiwanese were better left as at present, whereby Taiwanese students could visit on an individual basis or under UN auspices.[66]

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[62] TNA Science and Technology Department [FCO 55/234]: item 73, "The Royal Society and Taiwan", Boyd to Audland, Gillson (STD), Wilson, Murray (Far East Dept), copied to Hilson (East-West Contacts Dept), 27/10/1969.

[63] TNA Science and Technology Department [FCO 55/234]: item 73, "The Royal Society and Taiwan", Boyd to Audland, Gillson (STD), Wilson, Murray (Far East Dept), copied to Hilson (East-West Contacts Dept), 27/10/1969; This attitude also expressed in: TNA Science and Technology Department [FCO 55/639]: item 7 "FCO talks with the Royal Society" + attachments "Draft Speech for Lord Lothian on the occasion of the talks with the Royal Society 12 February, 1971" and "The re-establishment of scientific relations with China: Speaking Notes and Background", Ure (STD) to Brimelow, Morgan (Far East Dept), McInnes (UN (Economic & Social (?)) Dept), Wheeler (STD), Godden (Private Sec to Lothian), 09/02/1971; TNA Science and Technology Department [FCO 55/234]: item 76, Audland to Martin, 31/10/1969.

[64] TNA Science and Technology Department [FCO 55/234]: item 73, "The Royal Society and Taiwan", Boyd to Audland, Gillson (STD), Wilson, Murray (Far East Dept), copied to Hilson (East-West Contacts Dept), 27/10/1969.

[65] TNA Science and Technology Department [FCO 55/234]: item 76, Audland to Martin, 31/10/1969.

[66] TNA Science and Technology Department [FCO 55/234]: item 76, Martin to Audland, 17/11/1969. See Agar (2013), 10-12 for discussion of the resumption of the Society's relations with the AS in 1971-72. At this time, after his term ended as Foreign Secretary, Thompson established the Great Britain- China Committee (later Centre).

In contrast to the episode presented earlier regarding the Society's relations with Cuba, the China episode demonstrates clearly how the Society's preferred course of action was inverted to adapt to the government's foreign policy. This gives some indication of the Society's desire to maintain good relations with the government, and the power of the government to change the Society's course of action. However, it is shown in chapter 4 that, in the same time period, the Society was perfectly willing to put itself in public opposition to the government on a separate matter.

## 3.3 The Royal Society European Programme

### 3.3.1 A 'United States of Europe': a theme across Government

Britain in the 1960s sat in an awkward mid-position between the special relationship with the USA and the desire to join the European Economic Community (EEC). Foreign policy objectives were seemingly driven by paranoia over the country's relative economic strength and position on the world stage. Limitations were evident in Britain's good will towards the USA, particularly caused by the 'brain drain' of qualified scientists and engineers to America, yet progression towards membership of the EEC was seriously hampered by the French President, Charles de Gaulle.[67] A third element, the Commonwealth, was a dwindling area of influence for Britain, as countries pursued regional interests not always in harmony with those of Britain. The EEC was, therefore, seen as an alternative partnership which could promise economic progress.[68] In addition, scientific, technological and industrial collaboration on a European scale could provide a potential remedy to the 'brain drain' or 'technological gap', and enable an expanded Europe to compete with the USA in international markets. Matters were complicated by internal divisions on EEC membership, and on whether to

[67] Benn (1987), 449, 480-1, 503.
[68] MacLeod R. (1993): "Passages in Imperial Science: From Empire to Commonwealth", *Journal of World History* **4** (1), 148; Benn (1987), 55, 504.
At a Cabinet meeting on 30/04/1967, Cabinet voted 13 to 8 in favour of a Common Market application, having been persuaded, in Benn's perception, that the Common Market was the way of making economic progress. Benn (1987), 496.

pursue autarchy in space technology, an area in which the EEC sought co-operation.[69]

The term 'brain drain' was coined in February 1963 by London's *Evening Standard* newspaper in a response to the Royal Society's report *The Emigration of Scientists*.[70] The notion of a 'brain drain' emerged at a time when science was an important political issue. Matthew Godwin et al argue that it was connected with a wider feeling of post-war British decline, when one counter could be increased scientific manpower. The theme of declinism in the 1960s has been discussed particularly by David Edgerton, who argues that eminent political and scientific figures on the Left in the 1960s mobilised the rhetoric of decline in order to argue for a greater role for science and scientists in the state.[71]

These figures were associated with the Labour Party in opposition during the 1950s and early 1960s, and were central to composing a science policy for a potential future Labour Government. Blackett was one of the central figures in this group, sometimes referred to as the Gaitskell Group, who later became a close associate and advisor to PM Wilson and Chief Advisor in his new Ministry of Technology during the period when he was PRS. Blackett was incorrectly rumoured to have written Wilson's iconic White Heat speech, delivered at the Labour conference in Scarborough in 1963, which called for an end to the 'brain drain' and envisioned science and technology at the heart of a renewed national

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[69] TNA Science and Technology Department [FCO 55/48] 'Technological collaboration with Europe and the UK entry into EEC, 1968': item 29, "Technology and Industrial Integration in Europe", J.A. Robinson, 28/03/1968; "Cabinet, Official Committee on the Approach to Europe: Technology and Industrial Integration in Europe", Note by the Secretaries. Cabinet Office, 28/03/1968. The complication was that Ministers had decided that the UK should not contribute further to the European Launcher Development Organisation (ELDO) space programme.
Both politicians and the public were divided on Europe, which cut across traditional party divisions. Tory traditionalists were opposed to a move that would jeopardise the Commonwealth whilst Labour were influenced by objections to a merger with less socialist European nations. Despite 'Europe' dividing the Government, the Opposition, the nation and the Commonwealth, Wilson and his Cabinet were incredibly committed to EEC entry in 1967. In the event, in the House of Commons debate on the Common Market on 10/05/1967, there was a large majority in favour of application– almost all Tories and the majority of Labour MPs were in favour. Barclay G. (1972): "The Diplomacy of British Entry into Europe: An Australian Perspective", *The Round Table* **62** (245), 107, 111; Benn (1987), 498; In the early 1970s, both Heath, and Wilson (in Opposition) had difficulty dragging their rebellious parties and an unwilling nation (public polls taken after the Luxembourg decision indicated that 60% of the public were against entry to Europe) into Europe. Barclay (1972), 107, 111.

[70] Godwin M., Gregory J., Balmer B. (2009): "The Anatomy of the Brain Drain Debate, 1950s-1970s: Witness Seminar", *Contemporary British History* **23** (1), 36.

[71] Edgerton D. (2006): *Warfare State: Britain, 1920-1970* (UK: Cambridge University Press).

effort, to boost British industries, exports and the economy.[72] Although spending in science had increased during Macmillan's Conservative Government, which introduced the post of Minister for Science in its 1959 election manifesto, Labour utilised 'decline' and the 'brain drain' to attack Macmillan's science policy, which culminated in a pledge in their 1964 election manifesto to grant the necessary funds to maintain research standards in order to stop the 'brain drain'.[73]

Under Wilson's 1964-70 Government, science was also a key component of foreign policy. Tony Benn's Ministry of Technology was a driving force behind Britain's foreign policy in this period. Wilson's idea of a European Technological Community (ETC) was a key political and economic concept, designed to (i) encourage the growth of industry with strategic economic benefits on a European scale in order to close the 'technological gap' between Europe and North America; (ii) pave the way for Britain's entry into the EEC in their second application, which was somewhat ironically made difficult by Britain's special relationship, atomic and otherwise, with North America.[74] Blackett was present at key meetings to discuss policy on these issues as a basis for the European Technological Community.[75]

Wilson first proposed an ETC in his annual Guildhall speech (usually reserved for foreign policy) in November 1966. A year later, in November 1967, he proposed a seven point programme for European technological collaboration, which was an "integral" part of the British application to join the EEC. Wilson argued that a new dynamic in European technology and a new impetus to a European economic union was only possible through the enlarged EEC. Britain was prepared jointly to sponsor a European Institute of Technology, and to stimulate 'European

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[72] Edgerton D. (1996): "The 'White Heat' Revisited: The British Government and Technology in the 1960s", *Twentieth Century British History* **7** (1), 58; Edgerton (2006), 217.
[73] Godwin et al (2009), 40-41; Edgerton (1996), 54.
[74] RS Thompson [HWT 36] Folder C.76: [CSP (IRF) (68) 5] "CSP Working Group on International Research Facilities: European Technological Collaboration", 03/05/1968 + attached "European Technological Collaboration", note by Ministry of Technology, 10/04/1968.
[75] TNA Ministry of Technology [HF 19/2] 'Minister's weekly meetings, 1966-67', especially WM(66)12th Meeting, 16/11/1966, p1; Benn (1987), 450. Benn set up these informal weekly meetings to develop, amongst other things, a Departmental policy on Europe. Very soon after, Benn developed the line of argument that Britain should abandon the old idea of an imperial Britain and become an industrial one – looking forward rather than looking back. This he felt was particularly appropriate as the Colonial Office closed and MinTech opened. Benn (1987), 461-5.

companies' believing that more mergers on a European scale were necessary to compete with North America.[76]

The second British application to join the EEC faced an expected veto from de Gaulle, and so Wilson devoted much time to winning him over. The ETC was designed to tempt de Gaulle and address French concerns over American predominance. On this front, Britain seemed to have much to offer to Europe. But de Gaulle's 'Eastern policy' envisaged a Europe that included Moscow, and he anticipated that British entry could subsume the EEC into an Atlantic alliance. Moreover, he felt that Britain's preference for collaboration with America in many key fields must derive from dependency, thus revealing and perpetuating their technological inferiority.[77]

Between January and March 1967, Wilson conducted a 'probe' of EEC capitals to assess the attitude towards a second British application to the EEC. During the probe, Wilson intentionally played on European, especially French, anxieties about the 'technological gap' with the USA. Indeed, plans for the ETC were kept deliberately vague, according to Benn, because it was largely a tactical move. Ministers were told to make clear to existing member countries that the ETC would not be able to make full use and enjoy the benefits of British technology unless Britain was in the EEC. British offerings were also intentionally exaggerated.[78]

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[76] Benn (1987), 481; RS Thompson [HWT 36] Folder C.76: [CSP (IRF) (68) 5] "CSP Working Group on International Research Facilities: European Technological Collaboration", 03/05/1968 + attachments "European Technological Collaboration", note by Ministry of Technology, 10/04/1968, p1, and "European Technological Collaboration: Prime Minister's Guildhall speech, the seven points" [Annex A]. This material was considered by the CSP (IRF) in the context of the proposal to create a European Research Council.

[77] Young J. W. (2003b): "Technological Cooperation in Wilson's Strategy for EEC Entry", in Daddow O. J. (ed) *Harold Wilson and European Integration: Britain's Second Application to Join the EEC* (London: Frank Cass), 100, 106-108. Benn (1987), 480-481, 488.

[78] Young (2003b), 100, 103-105, 107, 110; Benn (1987), 481-2.
When de Gaulle pointed out that technological co-operation was already possible with Britain (eg on Concorde), MinTech asked the [Ministerial?] Science and Technology Committee to consider dragging its feet on technological projects with France in order to highlight how the situation might be improved if Britain were to enter the EEC; See TNA Scientific Relations Department [FCO 55/50] 'Brief on technological co-operation with the EEC, 1967': item 2, P.F. Hancock to Mr Thomson, 06/01/1967; item 1A, "Ministerial Committee on Science and Technology, Monday 9 January, European Technological Community", J.A. Thomson, 06/01/01967; item 1, "Technological Collaboration in Europe", G. Bowen, 04/01/1966; Brief No. 14, Draft, "Visits by the Prime Minister and Foreign Secretary, EEC Heads of Governments: Technological

### 3.3.2 The role of the Royal Society in this agenda

In 1963 the Society published the landmark *Emigration of Scientists* report, written by a committee chaired by Sir Gordon Sutherland, which sparked the entry of the 'brain drain' into the public and parliamentary imagination.[79] Their report demonstrated that their concern regarding the 'brain drain' was not merely quantitative, one in which loss by emigration could be replenished with gain by immigration, but rather was focused on the loss of a small class of elite scientists to North America. Indeed the Society noted that Britain had lost nine FRSs to the USA in the last five years.[80] Godwin et al argue that the Society's report was couched in national and economic terms, making the 'brain drain' a national affair. Thompson commented in retrospect in 1967:

> More than a year ago, the Society examined the existing pattern of scientific exchanges with Western European countries, and decided that although much was being done, more was needed to restore the conditions prevailing before the last war. Western Europe was the cradle of modern science, the centre of development of the new natural philosophy born in the 17th Century.[81]

For the Society, combating the 'brain drain' would also halt the decline of British science.

In 1965-66 the Society produced a report on the patterns of scientific interchange with Western Europe, using figures spanning 1958-65, which became the foundation for formulating a scheme for extending scientific exchange with Western Europe. The report focused on the need to counter-balance the attraction to both British and West European scientists of schemes run by the USA, and

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Collaboration", Speaking note; Brief No. 14, Draft, "Visits by the Prime Minister and Foreign Secretary to EEC Heads of Governments: A European Technological Community".

[79] Godwin et al (2009), 39. Using figures from the period 1952-61, the report concluded that the annual rate of recent PhDs going to the USA either temporarily or permanently was over 22% of the total UK output; Lord Hailsham (then Minister for Science) raised the issue in the House of Lords on 27 February 1963.

[80] Godwin et al (2009), 39. This focus on specific elite scientists was also evident in the actions of the Atomic Energy Authority/ Civil Service Commission Boards and the Department for Scientific and Industrial Research (DSIR) in keeping 'wish lists' of scientists they wanted to attract back to the UK. Godwin et al (2009), 38. See also p45 of the witness seminar.

[81] RS Thompson [HWT 20] 'Western Europe and Israel, 1965-81', Folder B.230: "The Royal Society and Foreign Scientific Relations", Report by H.W. Thompson, 30/09/1967, p2.

highlighted the tendency of FRSs to visit the USA over other countries.[82] A second report, *Scientific Interchange with Western Europe*, was prepared in advance of a meeting with the Ford Foundation in February 1966 to secure funds for a West European exchange scheme. It highlighted that extensive movement existed between Western Europe, including Britain, and North America, whilst there was an unsatisfied demand for exchange between Britain and Western Europe. The report reasoned that the Society was in the best position to strengthen this and could attract better scientists than if the scheme were run by the British Council, the North Atlantic Treaty Organisation (NATO) or the SRC.[83]

Blackett's role as scientific adviser in MinTech may have influenced him to pursue complementary policies through the Royal Society.[84] In addition to developing policy on the more industrial-focused ETC, weekly meetings at MinTech examined ways of increasing European collaboration in pure and applied research.[85] However, Harold Thompson, in his new role as the Society's Foreign Secretary, was the driving force behind the programme. In 1965 he set to work developing a West European science exchange scheme. During 1965-66 Thompson sought out and secured private funding for the scheme. He conducted his own 'probe' across the main European nations between February and August 1966, and consulted FRSs and Foreign Members about a potential fellowship scheme. His plans were met with enthusiasm. He found great anxiety in France about the technological imbalance between Europe and the USA, yet concern that

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[82] RS Officers' Minutes [OM/ 14(66)] 'Patterns of international scientific interchange with particular reference to Western Europe': especially p4, and Annex C: "Notes on a meeting at the Royal Society on 18 January 1966 to discuss the pattern of West European scientific interchange". Present: Tahourdin (British Council), Martin, Keay, Deverill (RS); RS Officers' Minutes [OM/ 14(66)]: Annex H: "The pattern of Fellows' visits overseas in 1965".

[83] RS Officers' Minutes [OM/ 22(66)]: 'Scientific Interchange with Western Europe: Notes for discussion with Mr Joe Slater, 14 February, 1966', 11/02/1966. This seems an unusual tact to follow in a proposal for funds from an American organisation with strong links to the State, but the Society were deliberately appealing to one of the Ford Foundation's major international objectives - the strengthening of American association with Europe and countries of the Western Pacific. RS Officers' Minutes [OM/ 20(66)] 'The Ford Foundation: Notes from the 1964 Annual Report'; See also RS Thompson [HWT 20] Folder B.230: Report by H. W. Thompson, Sep 1967, p1 (untitled document following "The Royal Society and Foreign Scientific Relations"). It is perhaps an earlier draft or previous incarnation of similar material. Here, Thompson makes the connection between the statistics of movement in Western Europe and the establishment of RSEP.

[84] Blackett was also deputy chairman of the ministry's Advisory Council on Technology. Edgerton (2006), 247.

[85] TNA Ministry of Technology [HF 19/2] 'Minister's weekly meetings, 1966-67', especially WM(66)12th Meeting, 16/11/1966, p1; Benn (1987), 450.

funds from the Ford Foundation could lead to American interference.[86] Meanwhile, the new CSP was planning a broadly analogous scheme utilising public funds.

At the 4th meeting of the CSP (ISR) on 5 April 1966, the committee agreed that the Government should make a proposal to establish a European fellowships scheme. The objective was to encourage the growth of European centres of excellence in growing points in science. A *Proposal for an International Convention on European Fellowships for Growing Points in Science* was circulated for discussion at the 5th meeting. It included a comment that there were advantages to the scheme not being too closely associated with any particular organisation, next to which in Thompson's handwriting was written "better to be done between academies and individuals".[87]

As the Royal Society and CSP schemes developed in parallel during 1966, common themes penetrated both sets of objectives and were discussed informally between representatives of the two organisations. A recurrent phrase in this discourse was creating "centres of excellence" which were envisaged throughout Western Europe as being necessary to counteract the attraction of American fellowships.[88] In an informal discussion with Keay, Massey said that he would like to see "centres of excellence" built up in Britain capable of attracting scientists from Western Europe of which there was a regrettable lack, especially

[86] RS Thompson [HWT 33] Folder B.522: Thompson to Embling (DES), 05/08/1966; Folder B.520: Notes on a visit to Paris, June 1966, Thompson 13/06/1966.
[87] RS Thompson [HWT 36] Folder C.70: [CSP (ISR) (66) 10] "Proposal for an International Convention on European Fellowships for Growing Points in Science", paper by DES, 10/05/1966.
[88] The Society's plans for a West European scheme were discussed with the CSP (WPISR) at one of its meetings on 18/02/1966, at which Blackett and Thompson mentioned the desire to develop links with Western Europe by seeking out "centres of excellence" and promoting the interchange of scientists. [OM/ 25 (66)] 'CSP Working Party on International Scientific Relations: notes on the meeting held on 18 February 1966' Keay, 21/02/1966; 'Centres of excellence' was a key term and goal in the Society's application to the Ford Foundation. RS Thompson [HWT 20] Folder B.210: "Draft application to the Ford Foundation", 17/03/1966; Embling commented to Martin that one of the two principal aims of the scheme is to "encourage a greater readiness among our scientists to consider working for a period in European research laboratories, particularly where these compare favourably with those in the United States". RS Thompson [HWT 20] Folder B.226: Embling to Martin, 26/06/1967; Libby (DES) wrote to Thompson that the first aim of the international fellowship scheme is to "counterbalance the natural attraction of the USA". RS Thompson [HWT 20] Folder B.231: Libby (DES) to Thompson, ~23/10/1967 "Publicity for Schemes facilitating International Scientific Interchange".

given Western Europeans going to America on fellowships.[89] In the same vein, in a letter from Thompson to Mr J. F. E. (Jack) Embling (Deputy Permanent Secretary, DES from 1966) in August 1966, Thompson commented that the development of scientific exchanges with Europe would enable the Society to "take something of a lead in the re-creation of a European scientific community".[90] He wanted to see more postgraduate studentships to enable researchers to spend longer periods in foreign countries, not only for their own merits, but "also as a sort of counter action to the 'brain drain' westwards".[91]

The CSP (ISR) met on 13 May 1966 to discuss the *European Fellowships* paper. Blackett and Thompson welcomed the scheme but no reference was made in the minutes to the possibility of the Royal Society administering it, yet by the next meeting it had been decided that they would. In the interim period, Appleyard (Secretary to the CSP (ISR)) had invited Thompson and Martin to an ad hoc meeting with Sir Frank Turnbull (Deputy Under-Secretary of State in the DES, 1964-66) to discuss the paper further.[92] Martin later recalled that Smith (MRC) may have proposed the idea at the earlier meeting, but anyhow "it was clearly in Turnbull's mind" when they met in his room on 23 May. Appleyard wrote to Thompson again on 3 June to say that the paper on the proposed fellowship programme had been "revised in the light of the informal discussion in Turnbull's room last week".[93] Both Thompson and Embling (DES) expressed later that year

[89] RS Thompson [HWT 36] Folder C.66: "Note of discussion between Dr. Keay and Sir Harrie Massey on 6 January 1966", minute 19 in [OM/8 (66)].
[90] RS Thompson [HWT 20] Folder B.218: [C/167 (66)].
[91] RS Thompson [HWT 33] Folder B.522: Thompson to Embling (DES), 05/08/1966;
[92] Frank Turnbull was Deputy Under-Secretary of State in the DES, 1964-1966. He was previously Secretary to the Office of the Minister for Science, from 1959. Anon. (12th September 1988): "Sir Frank Turnbull: Obituary", *The Times*, Issue 63184.
[93]RS Officers' Minutes [OM/ 59 (66)] 'International Scientific Relations', 08/06/1966 + attached: "Proposed European Science Fellowship Programme, Note by the Department of Education and Science", DES, 03/06/1966; [OM/115 (66)] 'European Science Fellowship Programme: note on a meeting at the Department of Education and Science held on 8 November 1966', D.C. Martin, 09/11/1966; RS Thompson [HWT 36] Folder C.70: [CSP (ISR) (66) 5th meeting]; Appleyard to Thompson, 17/05/1966; Appleyard to Thompson, 03/06/1966;
Folder C.71: Martin to Thompson 20/07/1966; "Evolution in 1966 of R.S. and D.E.S. proposals for European Interchange". The latter document was prepared as a reactive brief to a letter from Kurti on 16/07/1966, inquiring how the two schemes had become one, the reason for which seems to be rivalry from the SRC that they were not asked to administer it instead.

that they were keen to see the schemes run together, and by scientists, rather than a governmental agency.[94]

The nascent combined scheme was provisionally entitled the 'Royal Society European Programme (RSEP)'.[95] In fact it retained this name despite protests from the Swiss that the name should be Latin and not English.[96] There was some rivalry from the SRC which already administered various schemes for overseas travel and fellowships, including a programme designed to help scientists working in North America return to Britain.[97] Partly in response to this, the RSEP application process was subsumed into one centralised process, combining RSEP, SRC and NATO fellowship schemes.[98]

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[94] Thompson wrote to Embling (DES) to express his hope that the governmental and non-governmental schemes could be run together "with advantage to both". RS Thompson [HWT 33] Folder B.522: Thompson to Embling (DES), 05/08/1966. Embling was anxious that the scheme be administered by scientists, not the OECD or the Council of Europe. [HWT 20] Folder B.218: [C/167 (66)] "West European Scientific Interchange: report of a meeting held on 1 December 1966".

[95] A previous incarnation was 'European Science Fellowship Scheme', a title probably derived from Embling's proposal to OECD. See RS Thompson [HWT 36] Folders C.70, C.72, C.74.

[96] RS Thompson [HWT 20] Folder B.224: "European Science Programme: Report of a meeting held on 28 April 1967", 01/05/1967, pp3-4; [HWT 20] Folder B.225: template letter, Thompson, 01/05/1967.

[97] RS Thompson [HWT 36] Folder C.71: Martin to Thompson, 20/07/1966; Kurti to Francis (SRC) 16/07/1966; Folder C.72: [CSP (ISR) (66) 17].

[98]RS Thompson [HWT 36] Folder C.72: [CSP (ISR) (66) 17] "Research studentships and fellowships for British scientists to work abroad and senior visiting fellowships for foreign scientists in the UK: note by the Science Research Council", 31/10/1966.
The NATO Science Committee was established in 1958 following Sputnik, to strengthen Western science and scientific manpower in the alliance in order to compete with the Soviet Union. Within its first three years, the Committee's three-fold science programme of fellowships, research grants and summer schools developed rapidly. RS Thompson [HWT 36] Folder C.68: [CSP (ISR) (66) 4] "The scientific activities of NATO, the Council of Europe and OECD".
Krige argues that the rationale for the NATO Science Committee eroded over time as its objectives were met. Around 1963-1965, NATO's other rather neglected task of tying science into military requirements became of more central concern to the NATO Council than supporting basic science. Krige J. (2000): "NATO and the strengthening of Western science in the post-sputnik era", *Minerva* **34**, 101; Krige (2006), 203-208. The Royal Society may have been aware of this, and have been attempting to fill the potential gap left by the NATO fellowships. In February 1966, several of the Officers considered some material at CSP meetings in the context of discussing a potential new fellowship scheme. This material reviewed existing scientific exchange schemes, including those of NATO, and in it the DES argued that there was little scientific justification left for the NATO Science Committee to continue in existence. See RS Thompson [HWT 36] Folder C.68: [CSP (ISR) (66) 4] 15 Feb 1966 "The scientific activities of NATO, the Council of Europe and OECD".
In the UK, the NATO fellowships scheme was funded using money already allocated to the DSIR for training awards; the UK agreed to participate primarily in order to be "good Europeans". RS Thompson [HWT 36] Folder C.72: [CSP (ISR) (66) 17] p3.

The RSEP also tied in neatly with a proposal made by the OECD's Committee for Science Policy in a report *Fundamental Research and the Policies of Governments* considered at the OECD Ministerial Meeting on Science in January of that year (1966). The report proposed to concentrate research effort at "centres of excellence" in the OECD European region, supported by a fellowship scheme, in order to create 'a common market of ideas and scholarship' to rival American achievements. For this reason, Embling (DES) chose to announce the RSEP at the second meeting of the OECD Committee for Science Policy on 15 November 1966.[99]

The choice of the OECD as a launching platform for the RSEP was not insignificant. The OECD, established in 1961 as a direct descendant of the Organisation for European Economic Co-operation (OEEC), had been established in 1948 to assist in the administration of the American Marshall Plan. It had played a role in demarcating the regions of 'Western' and 'Eastern' Europe, with the Soviet Comecon organisation established in response the following year, to create equivalent economic co-operation between the USSR and the countries of the Eastern Bloc.

Although it was called the Royal Society *European* Programme (emphasis added), it was intentionally restricted to Western Europe on the recommendations of Embling (DES) and the OECD.[100] In this set-up, 'Western Europe' was not simply a geographical construction but a Cold War entity encompassing non-communist countries and politico-economic allies of the USA.

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[99] RS Thompson [HWT 36] Folder C.66: [CSP (66) 2] "The international Ministerial meeting on science, January 1966"; Folder C.72: [CSP (ISR) (66) 20] "European science fellowship programme, note by the DES", 08/11/1966; RS Thompson [HWT 20] Folder B.217: Embling to Martin, 21/11/1966; Embing to Martin, 24/11/1966.
OECD's science activities have roots in a committee of the Organisation for European Economic Co-operation established in 1950, its subject being common European problems in applied scientific research and scientific manpower. HWT 36 'CSP' Folder C.68 [CSP (ISR) (66) 4] p2.

[100] RS Thompson [HWT 20] Folder B.217: item C "Draft letter from Mr Embling to OECD and Members of the 'Fundamental Research and the Policies of Governments' Working Group"; item D "A European Science Fellowship Programme"; RS Thompson [HWT 36] Folder C.82: Thompson to Massey, 16/06/1969.

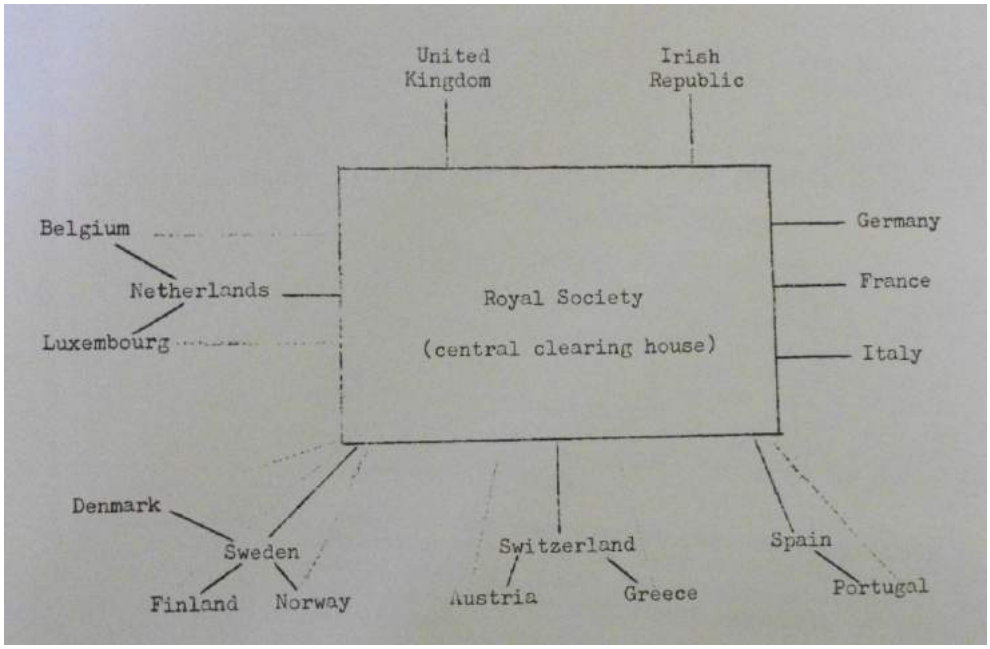


*Image 1: Diagram showing structure of RSEP. Those connected to the centre by solid lines were represented on the Organising Committee, chaired by Thompson (who was also the British representative). Those connected by dotted (or faded) lines to the centre, were represented by their respective associate. 'Germany' here is West Germany.*[101]

Indeed, the structure of the final scheme, fleshed out at three major international meetings with representatives of foreign academies, embodied in certain key ways the politico-economic structure of Western Europe.[102] The Society maintained more direct contact with the 'Inner Six', including Britain's major allies (the Italians and the Dutch) and potential obstructers (France and West Germany) of entry to the EEC.[103] The political alliance of Be-Ne-Lux was also represented in the diagram. The 'Outer Seven', or members of the European Free Trade

[101] RS Thompson [HWT 36] Folder C.74: [CSP (ISR) (67) 6] "European Science Fellowship Programme".
[102] The first three international meetings were held in London on 1 December 1966, Bad Godesberg, West Germany on 28 April 1967, and Amsterdam on 17 November 1967. RS Thompson [HWT 36] Folder C.74: [CSP (ISR) (67) 6] "European Science Fellowship Programme".
[103] Favretto I. (2006): "The Wilson Governments and the Italian Centre-Left Coalitions: Between 'Socialist' Diplomacy and *Realpolitik*, 1964–70", *European History Quarterly* **36** (3), 429-430. The Italians had always been supportive of Britain's participation in the EEC. They had been in favour of Macmillan's bid in 1961. Since de Gaulle's veto in 1963, their support for Britain's entry was second only to that of the Dutch.
In light of the Germans' half-hearted support, Britain were dependent on the Italians to re-launch the initiative towards European unity and the enlarged Common Market. Favretto (2006), 433.

Association (EFTA), dominated the bottom of the diagram and were more dispersed in their level of contact with the Society.

The three anomalies in the construct of 'Western Europe' were Greece, Spain and the Irish Republic, who, whilst remaining non-communist countries, were nevertheless non-conformist nations in their own ways. However, for the RSEP, as in the EEC more widely, France was the most non-conformist nation. Whilst most of the Western European countries were member states of NATO and military allies of the USA, de Gaulle, favouring a pro-Eastern policy, withdrew his forces from NATO control in 1966. The French had also criticised the OECD, the launching platform for the RSEP, for being too 'Western'.[104]

As well as airing concerns about the possibility of Ford Foundation funding bringing American interference, the French representatives were awkward with Thompson about the nature of the RSEP. Thompson's concern about the French attitude was evident even in the early days. In October 1966 he wrote to John Maddox, Editor of *Nature*, that "although the RS is taking the lead [on the RSEP], we don't want to give the impression of domination (especially to the French)".[105]

As Thompson had outlined at the first international RSEP meeting, held in London in December 1966, the aim of the scheme was to strengthen the European scientific community by encouraging: (i) specialised research conferences in Europe; (ii) short visits by senior scientists or postgraduate workers to other labs; (iii) longer visits i.e. fellowships (one to two years) by younger scientists (postgraduates and post-docs).[106] The type of science would not be prescribed, except from time to time when there might be a focus on a subject of special interest.[107]

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[104] For example, see TNA Scientific Relations Department [FCO 55/40]: especially item 7, P.F. Hancock (FO) to Sir Edgar Cohen (OECD, Paris), 24/01/1967. RS Thompson [HWT 36] Folder C.66: [CSP(66)2] "The International Ministerial Meeting on Science, January 1966".

[105] RS Thompson [HWT 20] Folder B.216: Thompson to John Maddox (Editor, *Nature*), 31/10/1966.

[106] RS Thompson [HWT 20] Folder B.218: "Notes prepared by Professor H W Thompson as a basis for discussion on 1 December 1966", 11/11/1966; Folder B.220: "Press Notice: Royal Society European Programme".

[107] An example list of scientific subjects from one cohort: nuclear magnetic resonance, theoretical fluid mechanics, nucleo-cytoplasmic control of the synthesis of mitochondrial proteins in yeast, nuclear spectroscopy, ecological studies on management of natural and semi-natural wildlife communities, visco-elastic behaviour of connective tissues of the lumber spine, aspects of

Concerns regarding American competition were also evident in the design of the RSEP. In January 1967, Thompson commented in his 'Memorandum of Finance' for the RSEP: "If the RSEP is to succeed in the face of continuing American offers to young postgraduates, it must be made sufficiently attractive. Applicants must not be inhibited by administrative delays, by discouraging financial comparisons, or by lack of equipment".[108] When the RSEP was officially launched in January 1967, Thompson had secured, at great effort, private funds equating to £36,000 per year for three years: $200,000 (£71,425) from the Ford Foundation for a three year period, £10,000 per year for three years from the Wates Foundation, and £2,400 per year for seven years from Pergamon Press.[109] A further £68,300 per year was siphoned from the Parliamentary grant-in-aid, with an additional promise of £150,000 per year from the DES.[110] This was in fact reduced to £50,000 for 1967-68 with approximately £100,000 reserved in the budget each subsequent year for two years.[111]

Thompson's concerns about the French were heightened as the scheme began to progress well with other European countries, whilst his French colleagues were hesitant. He raised these concerns in June 1967, at a meeting with the DES.

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productivity of zoobenthic organisms in Tjeukemeer, low-energy K-deuteron scattering using the Lovelace-Fadeev equations, ecology and behaviour of black grouse, macrocyclic aromatic systems (organic chemistry), reaction kinetics and photochemistry of photosynthetic reactions, the formation of specific proteins during the development of sea urchin embryos, mechanism of active transport of sodium by gills of teleost fish, mechanisms of inorganic reactions including electrode kinetics, plant-cell-wall polysaccharides and effect of growth on their constitution by means of joint botanical and chemical approach, the relationship between theory of local observables and axiomatic field theory, biogenesis of strychnine and structure of new Strychnos alkaloids, reactions of fluorosulphonic acid as a preparative reagent in synthesis of fluorine complexes of tellurium and selenium, organo-metallics. RS Thompson [HWT 20] Folder B.218: "The Royal Society European Programme", Appendix C, pp43-45.

[108] RS Officers' Minutes [OM/ 4c (67) – Appendix 3] "Memorandum of Finance for the Royal Society European Programme", Thompson, 03/01/1967, p1. Copy in RS Thompson [HWT 20] Folder B.220.

[109] RS Thompson [HWT 20] Folder B.228: Thompson to Embling, 10/08/1967.

[110] RS Officers' Minutes [OM/ 4c (67) – Appendix 3] "Memorandum of Finance for the Royal Society European Programme", Thompson, 03/01/1967, pp1-2; RS Thompson [HWT 20] Folder B.219: J.E. Slater, Associate Director, Ford Foundation, to Blackett, 15/12/1966; Folder B.220: Secretary, Ford Foundation to Blackett 27/01/1967.

[111] RS Thompson [HWT 20] Folder B.223: [IR/ 9 (67)] "Royal Society European Programme: Notes of an informal meeting on 18 April 1967", p2; Folder B.226: Embling to Martin, 26/06/1967; Folder B.229: Embling to Blackett, 16/08/1967; "Memorandum on meeting with Mr. J. Embling – 16 August 1967", Thompson, 22/08/1967; RS Thompson [HWT 9] Folder B.179: "UK fellowships and other awards available for promoting scientific interchange (Note for the Scientific Counsellors)", ISRD, 13/09/1967.

Embling said he would try to encourage the French to join the scheme.[112] The use of the term 'the French', when RSEP co-ordination was largely carried out with only one individual, Professor Jacquinot, potentially belies a feeling that it was a national issue rather than a personal one.

The problems with "the French" persisted. In October 1967, Thompson visited the Centre National de la Recherche Scientifique (CNRS) in Paris is order to discuss their issues surrounding the RSEP. He reported that the meeting was the most difficult and frustrating of all he had had about the RSEP since its inception. Professors Jacquinot and Curien said that they had been led to believe, and contributed funds on the understanding, that it would be a fully multilateral scheme, rather than bilateral between each member country and Britain.[113] The French representatives were very difficult about every issue raised, refusing to publicise the scheme or allow certain institutes to take part. They also indicated that they could not commit financially to the following year. Thompson said they showed no interest in making the exchanges a success and frustrated every point that was raised. He concluded that the RSEP would just have to go ahead with their colleagues in other countries in the hope that the French would follow.[114]

As early as January 1968, at an Anglo-Italian Round table discussion in Rome between the Officers of the Royal Society (plus Keay and the Managing Director of Mullard) and the Accademia Nazionale dei Lincei (plus the Italian Minister without Portfolio for Science and Technology, Leopoldo Rubinacci), the RSEP was being referred to as a deliberate step towards creating a 'United States of Europe'. The President of the Italian academy, Professor Segre, welcomed the steps recently taken by the Royal Society to rebuild European solidarity, primarily to combat the disturbing phenomenon of the 'brain drain'. Division in Europe, he continued, was evident in the struggle that European countries faced in competing in international markets. Therefore, there was a need for: (i) the integration of science and business and on a European scale in order to regain importance at an

[112] RS Thompson [HWT 20] Folder B.226: "Royal Society European Programme: Notes on a meeting at the Department of Education and Science held on 22 June 1967", 28/06/1967.
[113] A multilateral plan had actually been proposed to the OECD the previous year but was not accepted.
[114] RS Thompson [HWT 20] Folder B.231: "Memo on visit by Foreign Secretary to C.N.R.S., Paris, October 25th, 1967", Thompson, 27/10/1967.

international level; and (ii) the renewal and broadening of the Common Market in order to include science and technology.[115]

The Society's role in EEC diplomacy

Following de Gaulle's veto of British entry to the EEC in November 1967, Wilson's ETC was far from abandoned. In fact it assumed heightened importance and tied in with his new policy towards the EEC. Wilson and Michael Stewart, his Foreign Secretary, decided to explore new initiatives in European policy that, whilst not being presented as anti-French, should be designed to increase de Gaulle's isolation and weaken resistance to British entry in the post-de Gaulle regime.[116] The role of the ETC within this agenda was to keep Britain up-to-date with scientific and technological developments within the EEC, so that they would not be left behind. The motivation was that Britain did not in fact have much to offer in terms of technological collaboration and so they needed to prevent the Six from integrating and progressing independently of Britain.[117] However, an initiative from within the EEC in early 1968 provided Britain with a potential way in.

The Benelux countries' initiative was to press within the Six for consultation and collaboration with applicant countries in fields, including technological collaboration, which fell outside the terms of the Treaty of Rome. For this purpose the EEC established the Maréchal Committee (later renamed the Aigrain Committee, after its Chairman, Pierre Aigrain) to consider areas for collaboration with applicant countries. Officials in the Science and Technology Department and MinTech were interested in exploring the scope for co-operation in fields of work under consideration by the Maréchal/ Aigrain Committee, including the

[115] RS Thompson [HWT 20] Folder B.236: "Discussions with Italian Scientists, 11/01/1968"; "Anglo-Italian Round Table (Rome, 11 January, 1968): Inaugural Address by Professor Beniamino Segre, President of the Accademia Nazionale dei Lincei"; "Royal Society/ Accademia Nazionale dei Lincei, 11 January 1968: List of participants"; RS Officers' Minutes [OM/ 24 (68)] 'Notes on the discussion between representatives of the Royal Society and the Accademia Nazionale dei Lincei, 11 January 1968', Keay, 15/02/1968.
[116] TNA Science and Technology Department [FCO 55/49] 'Technological collaboration with Europe and the UK entry into EEC, 1968': item 48 "Discussion between PM and Foreign Secretary", 12/09/1968.
[117] TNA Science and Technology Department [FCO 55/48]: items 1 and 2. The Scientific Counsellor in Paris, Alan Smith, and Bowen in MinTech were important figures alongside the STD in discussing and developing policy on France and the EEC with regards to science and technology.

environment (pollution, noise etc), materials and transport, in the hope that Britain would be invited to collaborate.[118] Other nations hoped that the Aigrain Committee would create an environment favourable to British entry; indeed, the STD received inside information on the Committee from the Dutch, an 'Anglo-friendly' EEC nation.[119]

This new policy towards Europe was discussed in both the CSP's Committee on International Research Facilities (IRF), a small group of four including Thompson, and the CSP (ISR) in the context of considering the creation of a European Research Council.[120] The convergence of MinTech, FO and DES policies was acknowledged at these meetings as fostering a European scientific community capable of securing a place among world leaders of science. The proposed objectives of the European Research Council were considered consistent with the Government's policy on the ETC, although Audland (STD) suggested that the word 'community' might best be avoided as the Foreign Office felt that, in linking it too strongly to the EEC agenda, this would hamper its progress.[121]

In this context, the Lincei-Royal Society meeting came at a key moment in EEC diplomacy for both Italy and Britain. Wilson's Labour Government had courted close connections with the Italian Centre-Left, which they hoped would encourage a sympathetic attitude towards British entry.[122] With the rise of de Gaulle, the Italian Government hoped that a British-Italian coalition, and British entry into the

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[118] RS Thompson [HWT 36] Folder C.76: [CSP (IRF) (68) 5] "European Technological Collaboration, Note by the Ministry of Technology", 10/04/1968; TNA Science and Technology Department [FCO 55/189] 'European technological co-operation: Marechal Group, later Aigrain Group; working party on scientific and technological research policy of the EEC's Medium Term Economic Policy Committee, 1968-69': especially items 30-34, 38.

[119] TNA Science and Technology Department [FCO 55/189]: item 38.

[120] Implications of the Maréchal report were also discussed at CSP (ISR) at which the Committee were invited to steer the issues and line to be taken at the 3rd Ministerial meeting on Science in OECD in March 1968: HWT 36/ C.74 [CSP (ISR) (67) 12] 'Fundamental Research and Government Policy – OECD Study', 27/10/1967.

[121] HWT 36/ Folder C.75 [CSP (IRF) (68) 1st meeting]; [CSP (IRF) (68) 1-4]; 'Draft paper for CSP Working Group on IRF – Creation of a ERC,' ISRD, 6/5/1968; Folder C.76 [CSP (IRF) (68) 1st meeting minutes]; [CSP (IRF) (68) 5]- 'European Technological Collaboration: Note by the Ministry of Technology,' 10/4/1968; [CSP (ISR) (68) 2nd meeting]; [CSP (ISR) (68)]- 'Creation of a ERC: Note by Chairman,' ISRD, 14/5/1968; [CSP (IRF) (68) 2nd meeting minutes]; [CSP (ISR) (68) 2nd meeting minutes].

[122] The British Government were also keen to bolster the Italian Centre-Left against attacks from both Communist and Right-wing parties. Favretto (2006), 425. Britain's secondary agenda in stabilising the Italian government was to retain a stable political ally during their second application to the EEC. Favretto (2006), 429.

EEC, would counterbalance the Franco-German axis.[123] The Italian Government envisioned a Europe in partnership with the USA.[124] Following the French veto in November 1967, the Dutch Foreign Minister called for an Italian-Benelux front to override further French opposition, in order to maximise the flow of trade through Antwerp and Rotterdam.[125]

Part of the Italian Government's policy of mitigating the effect of the 1967 veto on relations between Britain and the EEC was to encourage collaboration between the Six and the four applicant countries (thus complementing the Benelux proposal).[126] In February 1968 the Lincei and the Royal Society decided to establish a bilateral relations committee for the purposes of increasing scientific co-operation. Meanwhile, British policy towards scientific co-operation with Italy, especially in the context of the Benelux proposal, including action taken as a follow-up to the Lincei-RS meeting, was co-ordinated at a national level within a network consisting of Blackett, Thompson, Martin, Keay (RS), Embling (DES), Bowen (MinTech), Flowers (SRC), Jackling (FCO), C.C.B. Stewart (FO), Shuckburgh (British Embassy, Rome), and the British Council. Embling asked that the CSP be kept informed of RS-Lincei discussions; indeed, the membership of the proposed RS-Lincei committee was designed to ensure good liaison with the CSP.[127] The following year, in April 1969, a bilateral Anglo-Italian political treaty was signed to the effect that Britain and Italy would look to increase alternative methods of co-operation as long as France continued to boycott British entry to the EEC.[128]

In April 1968 the Society, represented by Thompson, Martin and Keay, hosted an informal reception for an important French delegation, invited by the Foreign

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[123] Favretto (2006), 421-423, 433; RS Officers' Minutes [OM 15(68)] 'Scientific Relations between Italy and the United Kingdom: Notes on a discussion in the Royal Society', 07/02/1968 (held on 2/2/68).
[124] Favretto (2006), 423.
[125] Barclay (1972), 103.
[126] Favretto (2006), 433 – they circulated a memorandum about this in Feb 1968.
[127] RS Officers' Minutes [OM 15(68)] 'Scientific Relations between Italy and the United Kingdom: Notes on a discussion in the Royal Society', 07/02/1968 (held on 2/2/68). Blackett, Thompson, Martin, Keay, Bowen (MinTech), Embling (DES), Flowers (SRC) were present. RS Thompson [HWT 20] Folder B.241: C.C.B. Stewart (FO) to Thompson, 18/04/1968; RS Thompson [HWT 20] Folder B.239: Martin to Thompson, 29/01/1968; Blackett to Flowers, 29/01/1968; Blackett to Bowen, 29/1/1968; Roger .W. Jackling (FO) to Bowen (MinTech), 23/1/1968; Shuckburgh to Jackling, 18/1/1968.
[128] Favretto (2006), 433; Barclay (1972), 103.

Office. The delegation was on a tour entitled "Science and its industrial applications: Britain's contribution to the international scene" for which the briefing, provided by the Central Office of Information, revealed an intense preoccupation with EEC-related diplomacy.[129] The Society also made a concerted effort around this time to develop a rapport with the French Professor Pierre Aigrain, with Thompson taking the lead on this occasion to arrange for him a 'tour' of the SRC with Flowers, the DES with Embling, the CSP with Massey, and the Ministry of Technology with Bowen. It was around this time, in the follow-up from the Mulley meeting of the SAG on 25 April 1969, that J.C. Thomas sent a copy of the "Aigian" (*sic*) report to Keay.[130]

In October 1969, at the third attempt, Aigrain accepted an invitation to visit the Royal Society, on the occasion of their Anniversary Dinner at which he would give a speech. Blackett invited him to stay the following day in order to spend some time with the Officers to discuss European scientific co-operation, specifically (i) scientific research; (ii) applied science; (iii) scientific exchange programmes; and (iv) problems of the environment and the community. The latter topic held particular significance as it was both one in which the EEC were considering co-operation with applicant countries, and the designated discussion topic for the SAG. In advance of the meeting Keay briefed Blackett, Thompson and Martin on the government's current attitude towards the Aigrain proposals. Clipped to this briefing was an extract from the *Times* of 19 November 1969 which reported that Britain had just accepted a proposal from the EEC to co-operate with the Six in a number of key scientific and technological areas in the future.[131]

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[129] Indeed on a similar tour in 1967 the French guests had assumed that the object of the invitation was to show them what part British science, technology and industry could play in Europe in the event of British entry to the EEC. It seems very likely that this was indeed the objective. The 1968 delegation consisted of three scientific journalists, the Advisor on international scientific relations to the French Minister of Science, and the Chief Information Officer of the French Office of Science and Technology. RS Thompson [HWT 20] Folder B.241: Trevor Kenyon (Tours and Production Services Division) to Martin, 10/04/1968; "Central Office of Information: Visit of French Scientific Journalists, 28 April – 5 May 1968"; "Annex C: Scientific Personalities from France: Questions asked in 1967"; "Annex D: The more Awkward Questions which may be asked in 1968"; "Synopsis of tour"; "Detailed Itinerary".

[130] See page 154

[131] RS Thompson [HWT 20] Folder B.248: Thompson to Aigrain, 20/11/1968; J.F. Miquel (Conseiller Scientifique) to Thompson, 16/12/1968; Folder B.249: Aigrain to Thompson,

The efforts made by the Royal Society, particularly with regards to Aigrain, are striking in their conformity to the broader governmental agenda. This highlights two main points: (i) the SAG was important in honing a mutual RS-FCO agenda concordant with the British government's overall policy towards the EEC, as well as forward planning in a broader East-West context; (ii) the affinity of Society and governmental actions was not simply the result of the Society tending towards international policies favoured by the government so as to sustain good channels of communication in the corridors of power (such as demonstrated in 3.2.4). Rather, in this case, the Officers of the Society had their own international agenda to secure a continued role for Britain among future world leaders in science, and so they were willing collaborators.

This parallels two important arguments developed by Krige (2006) for the American context with regards to the relationship between the US government and the Rockefeller and Ford Foundations. Firstly, that the officers of the Foundations were not simply compliant agents of the state; rather they held shared interests in foreign policy that were affirmed by alliances between like-minded senior foundation officers and government administrators. Secondly, that the Rockefeller's image of independence was useful to the US Administration during the Cold War because it enabled them to "finance a politically inspired agenda under cover of an apolitical program".[132] Similarly, the CSP, and Thompson himself, recognised the benefit of the RSEP being run through an outwardly independent organisation, and it was predominantly for this reason that the Society was chosen to administer the scheme. It was the largely informal national network for international science that facilitated this shared agenda, whilst still

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06/01/1969; Handwritten notes by Thompson, planning possible schedule for a potential Aigrain visit in February 1969 (which did not materialise); Folder B.251: Thompson to Aigrain, 22/03/1969; Folder B.257: [OM/ 106 (69)] Annex B – copy of letter from Blackett to Aigrain, 22/10/1969; "Meeting with Aigrain and Casimir", Keay to Officers and Massey, 17/11/1969 - attendees included Fellows who were also representatives of the Research Councils, Massey (CSP), Embling (DES), and Macfarlane (MinTech); Blackett to Aigrain, 17/11/1969; "Informal discussion with Professor P. Aigrain and Professor H.B.G. Casimir on Tuesday 2 December at 10.00 am"; Thompson handwritten notes re: the meeting; Folder B.259: Keay to Blackett, Thompson and Martin re: 'the Aigrain Report', 26/11/1969; *The Times* "Go-ahead for EEC link on computers", Wednesday 19/11/1969; RS Officers' Minutes [OM/ 110 (69)] 'European Scientific Co-operation: Notes on a meeting held on 2 December 1969', 10/12/1969.

[132] Krige (2006), 75-76, quote on p188. A criticism of Krige is that the Rockefeller Foundation had a reputation as a capitalist institution, and therefore might not have been seen as being as 'independent' as he suggests.

allowing the actions of the Society to appear autonomous. In the next chapter I discuss an episode which highlights the limitations to this informal, consensual association, demonstrating the exclusion of the Society when necessary from the inner circles of government.

### 3.4 Conclusion

Close relations between the Society and the 1964-70 Labour Government have previously been attributed to the ties between Blackett and Wilson.[133] Whilst not disputing the existence of these ties, I have shown in this chapter that the ties between the civil service and the staff of the Society were equally if not more influential.

Given Blackett's pivotal role in the establishment of the SAG, one might have expected the informal arrangement to fade under a change of PRS and frequent changes of Officers and Ministers or Under-Secretaries. Indeed it has been argued previously that subsequent Presidents, particularly Todd, tried to break the ties that Blackett's presidency created with the government.[134] The persistence of the SAG across different Governments and Officers of the Society demonstrates the importance of the role played by the civil service and the Society's permanent staff in sustaining the liaison and the mutual interests of the two institutions.

The FCO had a strong influence over the Society, perhaps due to the Society's desire to maintain their strong links to the government. In the discussions regarding mainland China and Taiwan, the Society was persuaded to prioritise relations with Communist China (PRC) rather than Taiwan (ROC) because of the political importance of improving, or at least not aggravating, Cold War tensions. However, when a similar situation arose regarding the Society's relations with

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[133] For example, Nye argues that Blackett's straddling of the Society and Government in the mid-late 1960s strengthened ties between the two institutions and ensured the Society's continued role in education and research. Nye M. J. (2004): *Blackett: Physics, War, and Politics in the Twentieth Century* (USA: Harvard University Press), 159-160; Rowlinson also argues that Blackett, as someone who identified with the Labour Party, and a friend of Harold Wilson, ensured that links were close between the Society and the Government during his Presidency. Rowlinson J. S. (1992): "The Development of the Society, 1940-1989", in Rowlinson J. S., Robinson, N. H. *The record of the Royal Society of London: supplement to the fourth edition for the years 1940-1989* (Great Britain: Royal Society), 18.

[134] Rowlinson (1992), 26.

Cuba, the Society decided to proceed with an exchange agreement despite the reservations expressed by the American Department of the FCO. This shows that the dynamic between the Society and the FCO was not a simple one in which the Society was always compliant. Yet, the two episodes show that the Society's initial step, when it wished to formalise relations with a politically sensitive country, was to gauge opinion in the FCO before taking any action.

The Society, or at least Thompson, Blackett, Martin and Keay, was an obliging partner in carving out a politico-economic space for Britain in Western Europe. The RSEP functioned as a complement, both to the Government's second application to the EEC, and their renewed approach to the EEC after the French veto in 1967. This approach sought ways, such as shadowing the work of the Aigrain committee, to prevent Britain being left behind. The RSEP also created a precedent for European collaboration that, it was hoped, would nudge EEC negotiations in the desired way. The Officers and staff of the Society were willing collaborators in this arrangement because they wished to retain a national competitive advantage and to sustain Britain as a "scientific Mecca", a phrase used by Martin in his 1961 report.

This provides a critique of both Stephen Cox's recent article, and Thompson's participant account of the Royal Society European Programme (RSEP), both of which argued that the scheme was driven by the scientific ideals of universalism and internationalism.[135] However, Cox is perhaps a 'straw man' in this argument, as he has also commented that he suspects that De Gaulle's veto of British entry to the Common Market was a major catalyst for the establishment and growth of the RSEP, due to the fear of being left isolated from colleagues in Europe.[136]

The national network for international science outlined in the first section, and particularly the forums of the CSP and the SAG, were central to the honing of a mutual agenda in this respect. Finally, informality was very important in the relationship between the Society and government departments, particularly the FO/FCO. The working lunch, allowing 'off the record' discussion to take place,

[135] In this case, perhaps Cox (Executive Director of the Royal Society, 1997-2011) took Thompson's rhetoric at face value, or perhaps he intentionally chose to perpetuate it. Cox S. (2010): "The Royal Society in Cold War Europe", *Notes and Records of the Royal Society of London* **64,** 131-136.
[136] Cox (2010), 136.

was central in this arrangement, and should be taken more seriously in science policy historiography.

## 3.5 Appendix

**A list of the main civil servants and politicians referred to in this chapter, plus some others for the sake of completeness.**

Foreign Office (merged with Commonwealth Relations Office to form the Foreign and Commonwealth Office on 17/10/1968)

| | |
|---|---|
| *16/10/1964-19/06/1970* | *Labour* |
| **Foreign Secretary** | |
| 16/10/1964 – 22/01/1965 | Patrick Gordon Walker |
| 22/01/1965 – 11/08/1966 | Michael Stewart |
| 11/08/1966 – 16/03/1968 | George Brown |
| 16/03/1968 – 17/10/1968 | Michael Stewart |
| **Foreign and Commonwealth Secretary** | |
| 17/10/1968 – 19/06/1970 | Michael Stewart |
| *20/06/1970 - 28/02/1974* | *Conservative* |
| 20/06/1970 – 28/021974 | Sir Alec Douglas-Home |

**Minister of State**

| | |
|---|---|
| *16/10/1964-19/06/1970* | *Labour* |
| 23/10/1964 – 19/06/1970 | Lord Chalfont, formerly Alun Gwynne-Jones |
| 07/01/1967 – 06/10/1969 | Fred Mulley |
| 29/08/1967 – 13/10/1969 | Goronwy Roberts |

**Parliamentary Under-Secretary**

| | |
|---|---|
| *20/06/1970 - 28/02/1974* | *Conservative* |
| 24/06/1970 – 07/04/1972 | Lord Lothian |

**Permanent Secretary for Foreign Affairs**

| | |
|---|---|
| 1969-73 | Sir Denis Greenhill |
| 1973-75 | Sir Thomas Brimelow |

**Deputy Under-Secretary (Political Director/ Europe)**

| | |
|---|---|
| 1969-73 | Sir Thomas Brimelow[137] |

**Deputy Under-Secretary (Information and Culture)**

| | |
|---|---|
| 1963-66 | Sir John Nicholls |
| 1966-68 | Sir John Ogilvy Rennie |

**Head, Scientific Relations Department** (renamed Science and Technology Department in 1968) Scientific Relations Department FO 1965-68/ Scientific Relations Department FCO 1968/ Science and Technology Department FCO 1968-77

| | |
|---|---|
| 19/01/1970 – to at least 1972 | Ronald Arculus |
| from at least1969 – 19/01/1970 | Christopher J Audland |
| at least in1967 | Mr. Edward G. Willan |

**Head, Planning Staff**

| | |
|---|---|
| 1966-68 | Mr. John A. Thomson [138] |

Department for Education and Science

| | |
|---|---|
| *16/10/1964-19/06/1970* | *Labour* |

**Secretary of State for Education and Science**

| | |
|---|---|
| 18/10/1964 – 22/01/1965 | Michael Stewart |
| 22/01/1965 – 29/081967 | Anthony Crosland |
| 29/08/1967 – 06/04/1968 | Patrick Gordon Walker |
| 06/04/1968 – 19/06/1970 | Edward Short |
| *20/06/1970-28/02/1974* | *Conservative* |
| 20/06/1970 – 04/03/1974 | Margaret Thatcher |

**Permanent Secretary**

| | |
|---|---|
| 1963-70 | Sir G. Herbert Andrew |
| 1964 | Sir Maurice J. Dean |
| 1964-65 | Sir Bruce D. Fraser |
| 1970-76 | Sir William D. Pile[139] |

[137] Directory of British Diplomats, accessed 29/03/2013
[138] Directory of British Diplomats, accessed 29/03/2013

**Deputy Permanent Secretary**

| | |
|---|---|
| from at least 08/1966 – to at least 11/1969 | Mr J. F. E. (Jack) Embling |
| 1964-66 | Sir Frank Turnbull |

**Head, International Scientific Relations Department**

| | |
|---|---|
| From at least 11/1968 – to at least 1972 | Edwin C. Appleyard |

Ministry of Technology

**Minister of Technology**

| | |
|---|---|
| *16/10/1964-19/06/1970* | *Labour* |
| 18/10/1964 – 03/07/1966 | Frank Cousins |
| 04/07/1966 – 19/06/1970 | Anthony Wedgewood Benn |

**Permanent Secretary**

| | |
|---|---|
| 1964-66 | Sir Maurice J. Dean |
| 1966-70 | Sir Richard W.B. Clarke |

**Second Permanent Secretary**

| | |
|---|---|
| 1967-70 | Sir Ronald H. Melville |
| 1969-70 | Sir David B. Pitblado[140] |

[139] "The British Civil Service: Permanent Secretaries and other senior appointments since 1900", accessed 29/03/2013.
[140] "The British Civil Service: Permanent Secretaries and other senior appointments since 1900", accessed 29/03/2013.

# CHAPTER 4

## A special relationship? The Society takes on the Anglo-American agenda, 1964-71

## 4.1 Introduction: the 'Aldabra Affair'

*Image 1: 'Aldabra beach' in Autumn/ Winter of 1962*[1]

The Island of Aldabra, sixty square miles of Atoll in the Indian Ocean [has existed] virtually unchanged since pre-history, with a wealth of natural life, much of it unique in the world. Today Aldabra is also the site proposed by the Ministry of Defence as a staging post for military forces, a proposal that has brought scientists in America and in Britain into conflict with the military men.[2]

*BBC2 Television "Late Night Line-Up" 6 November 1967, 11.25pm.*

[1] Image 1: TNA Air Ministry [AIR 74/7] 'Aldabra, Seychelles: feasibility of airfield construction'. The photograph is featured as part of an engineering feasibility reconnaissance entitled 'Operation LUC' which ran 11th October -14th December 1962.

[2] BBC2 Television "Late Night Line-Up" 6 November 1967, 11.25pm. Duration: 29min. Copy of transcript in TNA Air Ministry and Ministry of Defence [AIR 20/11804] 'Aldabra Island, Indian Ocean: proposed staging post'.

In the mid-1960s the British Government planned to build a military airfield on the island of Aldabra in the Western Indian Ocean. The initial reconnaissance expedition to Aldabra in 1966 comprised a party of representatives of the Ministry of Defence (MoD), the British Broadcasting Corporation (BBC), and the Royal Society (hereafter the Society). Society representatives were concerned about conservation of the island's unique ecosystem and subsequently mobilised public opposition to the military development in an attempt to preserve the island for research and establish it as a nature reserve. The plans for the airfield were eventually abandoned at the height of the environmental opposition in November 1967. This eleventh hour turn-around, coming shortly after the devaluation of the pound, was presented publicly as a result of defence cuts. A small research station on Aldabra Island was established and run successfully by the Society for many years.[3] In the wake of what became known as the 'Aldabra affair', two narratives emerged which appeared to be fundamentally incompatible. The first depicted the Society as an influential advisory body to the government, on the assumption that military plans were abandoned due to the environmental opposition, whilst the second claimed that the Society had not been influential at all because their advice had not been sought at an early-enough stage to influence policy.[4]

This chapter will consider how two such narratives emerged and whether they are in fact incompatible. I argue that, although elements of the Society's opposition could certainly be considered successful and influential, what the Aldabra episode really highlighted was that the Society's influence on policy-making in this context was marginal and marginal*ised*. This assessment leads to further questions: (i) *why* it was marginalised and challenged; (ii) how the Society then utilised unconventional channels of communication in order to try to influence policy; and

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[3] Stoddart D. R. (1968a): "The Aldabra Affair", *Biological Conservation* **1**, 63-69; Stoddart, D. R. (1979a): "Aldabra and the Aldabra Research Station", in The Royal Society (eds) *The Terrestrial Ecology of Aldabra* (The Royal Society), 4; Lindley M. (3rd April 1980): "Environment: Aldabra faces problems", *Nature* **284**, 390.
In 1971 the Society took over the lease of the island which they held until 1980, at which point responsibility for conservation was passed to the Seychelles Islands Foundation, following Seychellois independence in 1976.

[4] There were also many sources which either sat on the fence regarding the reasons that the military plans were abandoned, or, more commonly, left it ambiguous, leaving the reader to make the connection between 'the Royal Society led a fierce campaign against the MoD' and 'the MoD subsequently abandoned the proposals later that year' This would be a typical example. A good example of this is: Beardsley, T. (1st December 1983): "Aldabra's New Status", *Nature* **306**, 419.

(iii) how the Aldabra episode was used to mobilise arguments about the place of science and scientists in the British state.

Considering these questions in the context of conflicting narratives allows us to focus on how the actors in the story wanted the controversy to be remembered. This in turn can be quite revealing as to personal and professional agendas and strategies. The first narrative was mostly a product of the government's 'red herring' public discourse, to give the impression of being concerned with conservation, that endured in the public domain. On the other hand, the second narrative was mobilised by those who felt they knew the *real* story. Therefore, exposing the 'truth' about the Aldabra affair became in itself a tool with which to argue for the greater involvement of scientists, and greater appreciation of scientific advice, in government.

The Aldabra affair is also remembered as part of a larger narrative about the island of Diego Garcia, which was depopulated around 1968 to make way for an Anglo-American military base and airfield. Since the late 1990s, this has been the subject of several high profile legal cases, in which the inhabitants of Diego Garcia have claimed that they were unlawfully removed from the island. This story has become entwined with that of the Aldabra affair because those who claim that the Society was able to successfully oppose the military base on Aldabra, tend to argue that Diego Garcia was subsequently depopulated as an alternative. Here I challenge this account on the grounds that Diego Garcia was clearly a parallel project which was not contingent on the fate of Aldabra.

## 4.2 Background

### 4.2.1 The scientific significance of Aldabra

Aldabra is a coral atoll in the Indian Ocean just north of Madagascar and west of the East African coast. Unlike the relatively common sea-level atolls, it is one of few that are elevated (see below) and is thus home to a wider range of habitats. It is uniquely positioned: close enough to the coast for colonisation by plants and animals, but sufficiently isolated to have allowed for their separate evolution into distinct species. Unlike the other elevated atolls which had been mined for

phosphates for decades, it remained largely untouched by humans, allowing unique forms of life, ill-adapted to competition, to flourish in the absence of exploitation, pests and weeds.


*Image 2: Aldabra coral cliffs in Autumn/Winter of 1962*[5]

In the 1960s, scientists had registered that it was home to many unique species and sub-species of plants and animals, most notably of the giant land tortoise, some of which could provide links in evolutionary series. Ten per cent of plants were found nowhere else on Earth. The island was a major breeding ground for great numbers of sea birds, including an extensive population of frigate birds. It was also home to the flightless rail, the last flightless bird of the Indian Ocean islands, a species rendered flightless by natural selection in the absence of a natural predator. A rare specimen of a relatively undisturbed island ecosystem, Aldabra promised to provide coveted theoretical insights into ecosystems, population dynamics, survival and extinction patterns.[6]

[5] Image 2: TNA Air Ministry [AIR 74/7].
[6] TNA Nature Conservancy [FT 3/617] 'Aldabra Island': "Scientific Policy Committee: Aldabra Island, Indian Ocean", attached paper "Conclusions of Royal Society – NERC/NC – Museum Memorandum", 07/07/1967; TNA Nature Conservancy [FT 3/616]: 'Aldabra Island: report on giant tortoises': "Uniqueness of Aldabra".

### 4.2.2 The strategic significance of Aldabra in the 1960s

In the early Cold War period, the Western powers were most immediately concerned with shaping a post-war Europe, vulnerable to communist ideology and invasion, into a Western alliance.[7] The Aldabra story needs to be set in the context of a similar project in East Africa and India in the 1960s, which arose from, as the Colonial Office expressed it, "the increased political importance" of Eastern and Southern Africa at this time.[8] After independence, former colonies faced severe economic and social instability and were potentially vulnerable to the influence of Moscow.

#### The Voice of America

The Voice of America (VOA), the external radio and television broadcasting propaganda service of the US government, was established in 1942, during World War II to promote a positive image of the USA in countries under the occupation of Nazi Germany and Japan. Assisted by an alliance with the British Broadcasting Corporation (BBC), VOA broadcast to countries worldwide during the Cold War, including those behind the Iron Curtain, in order to counter Soviet propaganda.[9]

For a long time the inadequate audibility of BBC services in vulnerable areas overseas had been a particular concern of the British government.[10] The urgency of broadcasting to East Africa was further emphasised by the events surrounding Rhodesian independence, and the realisation in March 1965 that Russia was

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[7] Krige J. (2006): *American Hegemony and the Postwar Reconstruction of Science in Europe* (Massachusetts Institute of Technology Press).

[8] TNA Colonial Office: Information Department [CO 1027/659] 'BBC relay station at Aldabra': item 14, R.H. Young (CO) to Sir Beresford Clark (Director, External Broadcasting, BBC), 11/05/1964.
Colonial Office officials may have been mindful of the recent political union of Tanganyika and Zanzibar (United Republic of Tanzania) in 1964 following independence of both countries from Britain; the first President, Julius Nyerere, introduced radical nationalisations and left a legacy of repressive African Socialism. He also cultivated close relations with the People's Republic of China.

[9] Heil Jr. A. L. (2003): *Voice of America: A History* (USA: Columbia University Press), 8, 47-49, 59-61, 77; Appy, C. G. (2000): *Cold War Constructions: The Political Culture of United States Imperialism* (University of Massachusetts Press), 111, 126.

[10] TNA Colonial Office: Information Department [CO 1027/659]: item E2/34, "Note on proposal to establish a relay station on Aldabra island", undated (around 30/02/1965).

broadcasting to Africa from the Kharkov area, and possibly to the Indian sub-continent from another station.[11]

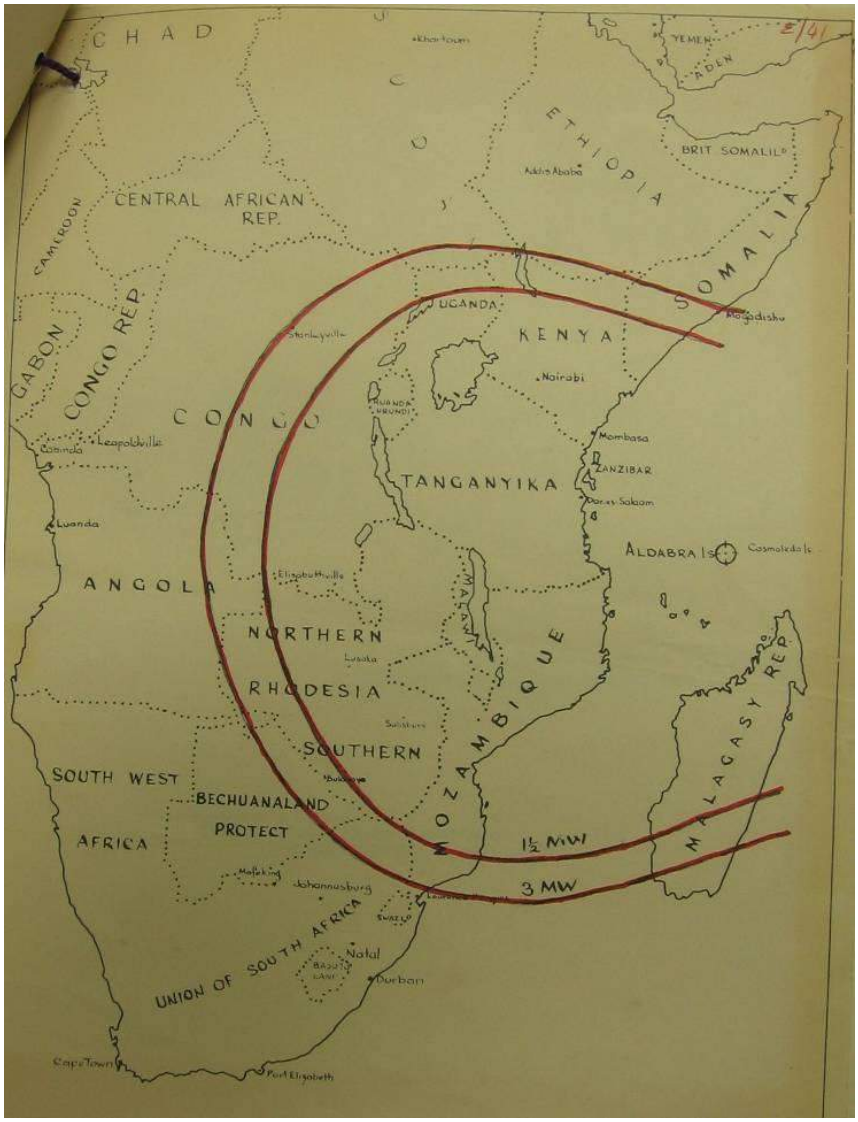


*Image 3: Colonial Office map showing the potential audio remit of a broadcasting station on Aldabra.*[12]

A committee considering the external services of the BBC had recommended to the Colonial Office in January 1965 that Aldabra Island would be ideally sited for broadcasting to a wide area of East Africa.[13] The Diplomatic Wireless Service

[11] TNA Colonial Office: Information Department [CO 1027/660] 'BBC relay station at Aldabra': H.K. Robin, 24/03/1965.
[12] TNA Colonial Office: Information Department [CO 1027/659]: item E/41.
[13] TNA Colonial Office: Information Department [CO1027/659]: item 53, Secretary of State for the Colonies to Rt. Hon. The Earl of Oxford and Asquith (Seychelles), 22/01/1966; item 52 "Use of Aldabra for BBC Relay Station", 17/12/1965. The committee was under the Chairmanship of Sir Thomas Rapp.

agreed that Aldabra was ideal for providing "an acceptable service to some sixty million people in eleven countries including important areas such as Zambia, Rhodesia, Kenya and Tanzania [...] in order to attract and maintain this important audience".[14] The British Government were keen to involve the Americans in the project in order to share the costs, and anyhow the Voice of America had already expressed many times that it was anxious to take part.[15]

It was in this respect that British and American governments converged on plans for Aldabra, and the BBC's plans for exploring Aldabra converged with those of the MoD.

British Indian Ocean Territory

On 8 November 1965, Prime Minister Harold Wilson, keen to keep Britain on the world stage, led his Labour Government into a fifty year agreement with the Americans regarding military capacity in the Indian Ocean. It involved separating several desired islands from their respective affiliations with Mauritius and the Seychelles in order to be made available to the US and British governments for defence purposes. This proceeded with the agreement of Mauritian Ministers and the Seychelles Executive Council on the understanding that the cost of detachment included the compensation of landowners, the resettlement of islanders, and the construction of a civil airport in the Seychelles. This territory became known as the British Indian Ocean Territory (BIOT).[16]

The American and British Governments agreed that the American role in establishing BIOT should be played down. America's financial contribution of half the costs of detachment was to be kept secret, not only because they had

[14] TNA Colonial Office: Information Department [CO 1027/660]: "D.W.S. proposal for a high powered four channel medium wave broadcasting station", 28/04/1965.
Two sites were being considered for services to India: Northern Maldives island and Masira island off Muscat: TNA Colonial Office: Information Department [CO 1027/660]: H.K. Robin, 24/03/1965.
The DWS and BBC both submitted proposals to host the Aldabra relay station; The BBC proposal proved to be more popular.

[15] TNA Colonial Office: Information Department [CO 1027/660]: H.K. Robin, 24/03/1965; DWS proposal, 28/04/1965; See also TNA Colonial Office: Information Department [CO 1027/659]: D.M. Summerhayes (FO) to R.W.P.Cockburn (BBC), 30/03/1965.

[16] TNA Prime Minister's Office [PREM 13/1387] 'DEFENCE. British Indian Ocean Territory: construction of an airfield on Aldabra and compensation agreements with Mauritius': "The British Indian Ocean Territory", to the Prime Minister, 17/12/1966.
Wilson did not concede to the fifty year agreement (as opposed to thirty years) until December 17th 1966 (see same folder).

chosen to bypass Congressional approval, but also to discourage Mauritian and Seychellois Governments from putting up the price.[17] The British Government assumed all the costs of detachment for BIOT and in exchange an amendment was made to the Anglo-American Polaris agreement of 6 April 1963, which reduced Britain's R&D surcharge on Polaris by $14 million, or one half of the cost of detachment, whichever was cheaper.[18]

Throughout the build up to establishing BIOT, concern had been repeatedly expressed in Government circles over the likely reactions to the establishment of a new colony in a period of decolonisation. The Prime Minister's advisors felt that accusations of colonialism and imperialism in the United Nations and elsewhere were inevitable, and strong criticism was predicted in Afro-Asian and communist circles.[19] In order to meet such criticisms, official responses to questions regarding the role of BIOT in British foreign policy stated that:

> [BIOT] will strengthen the bridge across the Indian Ocean and ultimately make it easier for us to meet our commitments to our other Commonwealth partners, (e.g. Malaysia) as well as to the defence of the free world generally.[20]

Furthermore, Ministers were told to "deny that the development of island facilities is, or could be, a substitute for Aden and Singapore".[21] The Mauritian and Seychellois Governments were told that there were firm plans for a relay station and radio communications on Diego Garcia, but that other islands were mostly seen as insurance at that time.[22]

Yet, as military plans for the development of Aldabra unfolded into 1966, the Cabinet Secretary acknowledged privately to the Prime Minister that:

---

[17] TNA Prime Minister's Office [PREM 13/1387]: "Defence facilities in the Indian Ocean", Colonial Office to the Prime Minister, undated (around 07/11/1965).
[18] TNA Prime Minister's Office [PREM 13/1387]: Polaris/ BIOT agreement, undated (around Sep-Nov 1966).
[19] TNA Prime Minister's Office [PREM 13/1387]: "Defence facilities in the Indian Ocean", Burke Trend to the Prime Minister, 09/04/1965; "Defence facilities in the Indian Ocean", Colonial Office to the Prime Minister, undated (around 07/11/1965); Commonwealth Relations Office (CRO) to British High Commissions (BHC), 06/07/1965; "Indian Ocean", to the Prime Minister, 06/11/1965.
[20] Prime Minister's Office [PREM 13/1387]: "Defence interests in Indian Ocean", CRO to BHC, 06/07/1965.
[21] Ibid.
[22] Ibid.

> the airfield would provide a useful reinsurance for the strategic reinforcement of the Middle and Far East in case we are denied the existing route across Turkey and Iran. It would also be important, if not essential, for mounting operations in East and Central Africa and in the former High Commission territories in Southern Africa after we have left Aden […]. Finally the airfield would be useful for the protection and surveillance of shipping in the Indian Ocean.[23]

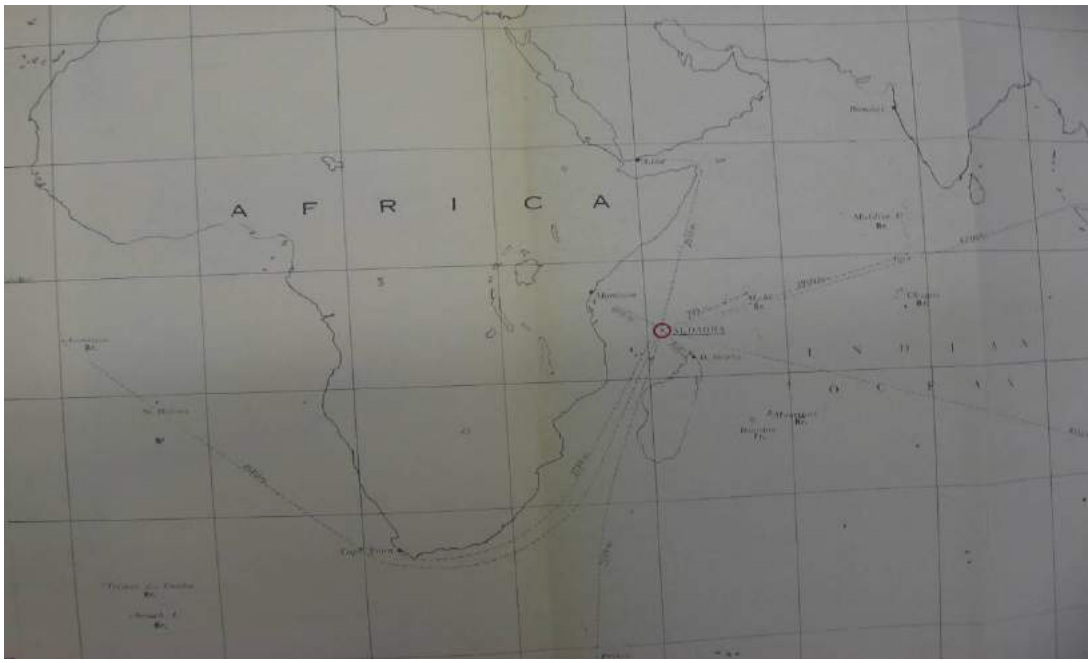


*Image 4: Air Ministry map showing Aldabra's potential role in air routes crossing the Indian Ocean.*[24]

Indeed, Aldabra had been envisaged since at least 1964 as part of a long-range reinforcement route to the Middle and Far East that could avoid Africa and Arabia, between bases at Ascension Island and Aden or Gan, and a mid-range route between Aden and South Africa (see above).[25] The strategic importance of a base on Aldabra increased greatly as the Aden Emergency intensified, compromising the future of the Aden base, and increasing reliance on Kenya and Southern

[23] TNA Prime Minister's Office [PREM 13/1387]: "Defence facilities in the Western Indian Ocean", Burke Trend to the Prime Minister, 09/06/1966.
[24] Image 4: TNA Air Ministry [AIR 74/7].
[25] TNA Colonial Office and Commonwealth Office: Defence Department and successors [CO 968/870] 'Aldabra Island': item 1, "Extracts from DP note 10/64", 06/03/1964.

Rhodesia that were making their own moves towards independence.[26] In late May 1964 the Colonial Office were advised by the MoD that, due to these shifts towards independence, it was now no longer worthwhile building a long-range transit airfield in any of the British High Commission Territories, thus heightening the need for Aldabra.[27] Forward-planning Air Ministry diagrams from 1967 show that weapons were due to be shipped to both Ascension and Aldabra by July 1970 and available to use by October of that year. This policy indicated that Aldabra was indeed intended as a military base rather than a simple re-fuelling station (see below).[28]

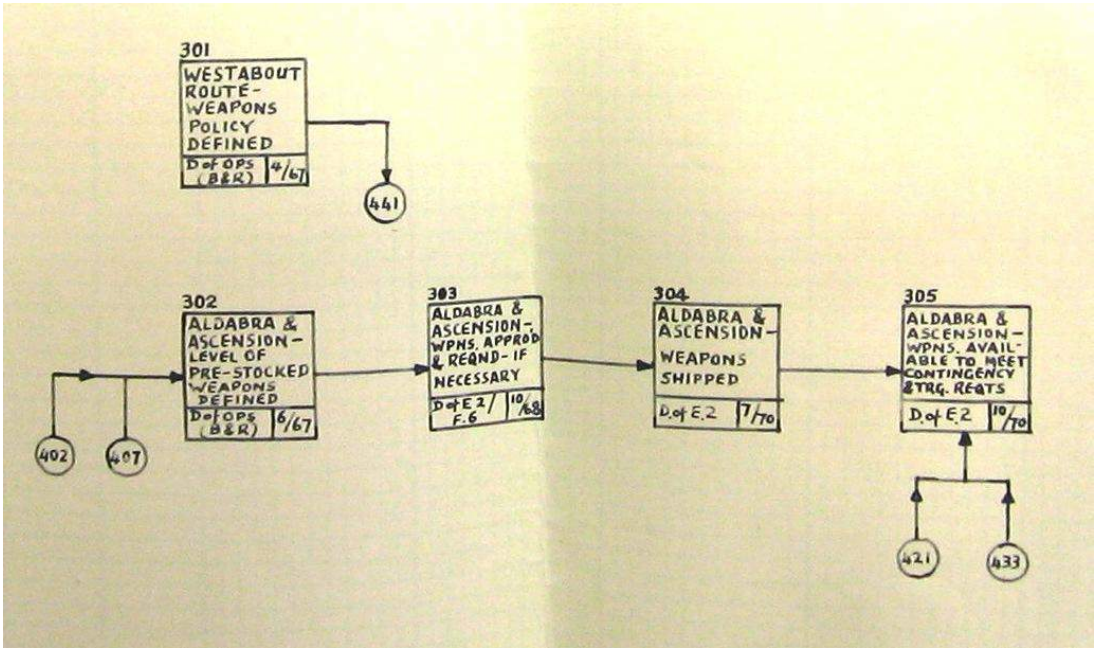


*Image 5: Air Ministry forward-planning diagram 1967* [29]

On 10 June 1966 the Defence and Overseas Policy Committee (a sub-committee of Cabinet) approved Secretary of State for Defence, Dennis Healey's proposals for a further survey on Aldabra and opened discussions with the American

[26] TNA Colonial Office and Commonwealth Office: Defence Department and successors [CO 968/870]: Commander-in Chief, Middle East (CinC MidEast) to MoD, 25/05/1964.
[27] TNA Colonial Office and Commonwealth Office: Defence Department and successors [CO 968/870]: MoD to CinC MidEast, 29/05/1964.
[28] TNA Air Ministry and Ministry of Defence [AIR 2/16849] 'Aldabra Island (Seychelles): survey prior to proposed construction of airfield': "Forward Planning: Staging Posts and Island Airfields: Weapons", 03/1967.
[29] Image 5: TNA Air Ministry and Ministry of Defence [AIR 2/16849] "Forward Planning: Staging Posts and Island Airfields: Weapons", 03/1967.

government for sharing the costs of an airfield.[30] In the same month, the Officers of the Society caught wind of these plans at a meeting of their Southern Zone Research Committee via an ex officio member of the committee, Desmond Scott from the Hydrographic Department of the Royal Navy (referred to elsewhere as the Society's "Navy pipeline").[31]

Subsequently, an approach was made to the Minister of Defence for Air Force, Lord Shackleton, who arranged with the Society that Dr. C. A. Wright of the British Museum and Dr. David Stoddart of the Department of Geography at the University of Cambridge could accompany the joint MoD-BBC reconnaissance expedition of Aldabra planned for September-October of that year.[32] Their role was to collate information on conservation.[33]

### 4.3 The Royal Society: mobilising public opposition

Despite Stoddart and Wright being attached to the expedition at the Society's request, it was not consulted officially by the Government on any matters relating to conservation or any other aspect of the airfield.[34] On 15 December 1966, not long after his return from Aldabra, Stoddart's report on the expedition was laid before the Society's Council. It warned that even limited development could have disastrous consequences for the untouched ecosystem. Therefore, the Council unanimously approved the report on the grounds that "there was an overwhelming

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[30] TNA Air Ministry and Ministry of Defence [AIR 2/16849]: 17/06/1966.
The Defence and Overseas Policy Committee was established 01/10/1963. Membership: PM (Chair), First Secretary of State, Foreign Secretary, Chancellor, Home Secretary, Commonwealth and Colonial Secretary, Minister of Defence. National Archives Research Guide: Cabinet Committees.

[31] As well as being responsible for initiating the Society's involvement in the Aldabra expedition, Scott was the one who first told the Society about the Diego Garcia trip (in 1967) and with whom they fixed their own participation in that trip. SI Fosberg Box 2 'Correspondence – David R. Stoddart, January-July 1967': Stoddart to Sachet, 10/04/1967.

[32] Butler D., Butler G. (1987): *British Political Facts 1900-1985 6th edition* (Hong Kong: Macmillan Press), 73. Lord Shackleton was Minister of Defence for Air Force from 19/10/1964 until the office was abolished on 07/01/1967.

[33] RS Southern Zone Research Committee [SZR/21(66)] 'Report on the Conservation of Aldabra Southwest Indian Ocean by Dr. D. R. Stoddart, Department of Geography, Cambridge' (undated) p1; TNA Nature Conservancy [FT 3/616]: 01/11/1966; Beverton (Secretary, NERC) to Blaker (DES), approx. 3-9/02/1967.
Lord Shackleton was Minister of Defence for Air Force from 19/10/1964 until the office was abolished on 07/01/1967. Butler D., Butler G. (1987) 73.

[34] Stoddart D. R. (2001): "Be of good cheer, my weary readers, for I have espied land", *Atoll Research Bulletin* Golden Issue **494**, Part 12, 249.

case for the *total* preservation of Aldabra". They proceeded to make an approach to the MoD and BBC, urging them to "give serious consideration to the possibility of using alternative sites".[35] The Society also took immediate pre-emptive action by distributing the report to "organizations and individuals interested in the conservation of Aldabra", with a view to inviting them to a meeting in the New Year.[36]

The Royal Society meeting in January 1967 was attended by representatives of the international conservation community, including the Ornithological Society, Royal Botanical Gardens, International Union for the Conservation of Nature, British Ecological Society, British Ornithologists Union, Fauna Preservation Society, Smithsonian Institution (Washington), Nature Conservancy, US National Academy of Sciences, Royal Naval Bird Watching Society, Special Committee for the International Biological Programme, World Wildlife Fund, International Council for Bird Preservation, and the Zoological Society of London. The meeting concluded that the Society should be supported by these organisations in pressing the Government on the need to preserve Aldabra for scientific research. An Aldabra Sub-Committee of the Southern Zone Research Committee was subsequently established to co-ordinate this effort, focused on securing Aldabra as a nature reserve and establishing a programme of research there as soon as possible, in case development were to proceed regardless. A statement of views was sent to the MoD and a press release was planned.[37] By the end of January 1967, as the Nature Conservancy (hereafter the Conservancy) warned the Natural Environment Research Council (NERC), there was "a considerable storm brewing in international conservation circles over Aldabra".[38]

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[35] RS Council Minutes vol. 22, 15/12/1966 p. 476 Minute 9; RS Council Papers [C/178(66)] 'Recommendations to Council from the Southern Zone Research Committee Meeting 8 December 1966' (13th December 1966); Stoddart (2001), 250.
[36] RS Council Minutes vol. 22, 15/12/1966 p. 476 Minute 9.
[37] RS SZRC [SZR 2a(67)] 'Aldabra Meeting: Report' 10/01/1967; TNA Nature Conservancy [FT 3/616]: Holdgate (NC) to Poore (NC), 12/01/1967; Beverton (NERC) to Blaker (DES), approx. 3-9/02/1967.
[38] TNA Nature Conservancy [FT 3/616]: Poore (NC) to Beverton (NERC), 24/01/1967.
NERC was established in 1965, subsuming several environmental organisations, including the Nature Conservancy (NC), under one umbrella organisation. The NC continued to operate as a separate unit under NERC. Martin Holdgate (Deputy Director, NC, 1966-70) claims that NERC had "growing pains that lasted for several decades"; NERC was "clearly uneasy" about having NC within it, as NERC was focused on research whilst NC was focused on promoting conservation, which seemed alien to NERC. According to Holdgate, the research side would argue that you could

In the same month it was noted in the Defence Department of the Commonwealth Office that the "considerable opposition" built up by the Society was beginning to cause problems for the MoD and that "unless the objections were met firmly in the early stages, the Royal Society's activities could be very embarrassing".[39] The Society's press release in February made a case for the "total preservation of the island of Aldabra for scientific investigation and the abandonment of any proposal to construct an airfield on it". The Society's protestations were felt at high levels; in April 1967, concerns over the Society's statement were communicated to the Prime Minister's Office and certain missions abroad.[40]

The campaign that developed soon took on an Anglo-American flavour. A colleague of Stoddart's in atoll research, Mr. F. Raymond Fosberg of the Smithsonian Institution in Washington, alongside his colleague, Marie-Helene Sachet, had been active on the American side from July 1966, and kept in close correspondence with Stoddart throughout the controversy.[41] Although 'the Royal Society' was in touch with 'the Smithsonian' on the issue, the real action occurred between Fosberg, Sachet and Stoddart and can be followed in their personal correspondence; their ideas were relayed to the Society, usually via the Biological Secretary, Sir Ashley Miles.[42] For instance, in February, Sachet reported to

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not save species or manage reserves without the requisite scientific knowledge. Holdgate M. (2003): *Penguins and Mandarins: Memories of natural and unnatural history* (UK: The Memoir Club), 150, 163-164, 168.

[39] TNA Commonwealth Office: Defence Department [FCO 16/227] 'Strategic planning: Aldabra': item 1, "Extract from C.O.S. (67) 2nd meeting held on 10.1.67"; "Military capability in Africa", M. Scott (East Africa Dept) to Commonwealth Office and Sir Edward Peck, Nairobi, 16/02/1967; item 1 "Part I to C.O.S. 2nd meeting/ 67. 10th January 1967". See also item 2 "Extract from C.O.S. (67) 4th meeting held on 24.1.67".

The Foreign Office merged with the Commonwealth Relations Office on 17/10/1968 to form the Foreign and Commonwealth Office. The majority of 'FCO' documents used in this chapter predate the existence of the FCO. These files were inherited by the FCO from the Commonwealth Office upon the 1968 merger and have been retrospectively archived under FCO. See bibliography for a detailed breakdown of FCO files used in this chapter. Butler D., Butler G. (1987), 46.

[40] TNA Prime Minister's Office [PREM 13/1387]: Foreign Office and Commonwealth Office to certain missions, 06/04/1967.

[41] TNA Nature Conservancy [FT 3/616]: Fosberg (Smithsonian) to Berwick (Sec-General, IUCN), 13/07/1966; Fosberg (Smithsonian) to Max Nicholson (Director General, NC, 1952-66), 18/10/1966; SI Fosberg Boxes 1 and 2.

[42] According to Stoddart, Miles also had regular meetings with the Parliamentary Secretary to the RAF in MoD, who replaced Lord Shackleton, although no record of these discussions has transpired: SI Fosberg Box 2 'Correspondence – David R. Stoddart, January-July 1967': Stoddart to Fosberg, 25/02/1967.

**Ashley Miles** (FRS 1961) was a medical microbiologist. During WWII he worked for the Emergency Medical Services, during which time he specialised in bacteriology. In 1946 he became Director of the Department of Biological Standards at the National Institute for Medical Research.

Stoddart that, immediately after the January meeting at the Society, members of the Smithsonian had been approached by members of the US Air Force for 'ammunition' for the RAF to counter arguments about bird strike hazard coming from the Society.[43]

Although the US Government's involvement in the project was supposedly secret, Fosberg, Sachet and Stoddart were aware that it existed on some level and knew of the Department of Defense's (DoD) participation in the upcoming (August-September 1967) Aldabra expedition.[44] Lee Talbot was their contact at the Smithsonian and he had contacts in the US military. It was through him that Fosberg and Sachet often gained inside information.[45] In February 1967, Sachet told Stoddart that she was determined to find out more about the role of the US military in the whole affair. Certainly, by the end of March, the three of them were aware that the USA had agreed to pay half the costs of the airfield, even though, as Sachet warned Stoddart, it was "still a deep dark secret".[46]

Having strong links with the American National Academy of Sciences (NAS), Fosberg and Sachet started the ball rolling there, and the NAS began informally to lay the groundwork to approach the Defense Secretary, Robert McNamara, about the matter. Sachet commented that the Academy was better placed to reach the 'Pentagon brass' than the Smithsonian.[47] It was through these American connections that Stoddart came to hear in late 1966/ early 1967 of indications that the MoD had progressed much further with the project than the Society was aware. Such indications of covert progress led to the deliberate tactic on both sides of the

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In 1952 he was appointed Director of the Lister Institute of Preventative Medicine. In scientific administration, Miles had been very active on the British National Committee for Biology, being Chairman 1957-63. He became Biological Secretary of Society in 1963. Neuberger A. (1990): "Arnold Ashley Miles. 20 March 1904-11 February 1988", *Biographical Memoirs of Fellows of the Royal Society* **35**, 304-326.

[43] SI Fosberg Box 2 'Correspondence – David R. Stoddart, January-July 1967': Sachet to Stoddart, 10/02/1967; See also in the same folder: Sachet to Stoddart, 22/02/1967; Sachet to Stoddart, 03/03/1967; Sachet to Stoddart, 23/03/1967; Sachet to Stoddart, 29/03/1967; Fosberg to Stoddart, 24/04/1967; Also, this correspondence in general.

[44] SI Fosberg Box 2 'Correspondence – David R. Stoddart, January-July 1967': Stoddart to Fosberg, 14/12/1966.

[45] SI Fosberg Box 2 'Correspondence – David R. Stoddart, January-July 1967': Sachet to Stoddart, 22/02/1967.

[46] SI Fosberg Box 2 'Correspondence – David R. Stoddart, January-July 1967': Sachet to Stoddart, 29/03/1967.

[47] SI Fosberg Box 2 'Correspondence – David R. Stoddart, January-July 1967': Sachet to Stoddart, 10/02/1967; Sachet to Stoddart, 22/02/1967.

Atlantic of encouraging wider public pressure and interest through the scientific and mainstream media, as well as approaching Ministers directly.[48]

On 2 March 1967, Secretary of State for Education and Science, Anthony Crosland, telephoned the Biological Secretary of the Society, Sir Ashley Miles, to say that he wished to be advised jointly on the issue of Aldabra by the Society, NERC and the British Museum of Natural History (BMNH).[49] This 'tripartite' advice, as they came to call it, would "afford the evidence required by the Secretary of State for Education and Science if the matter [became] one for Government decision".[50]

Despite having now been asked officially for advice, the Society continued to mobilise opposition in an unofficial capacity, putting repeated pressure on the MoD and the BBC to consider other sites for the airfield. On 22 May 1967, in what Stoddart considers must have been an unprecedented move, the Officers of the Society, led by the President, Patrick Blackett, went together in a taxi to express their views personally to the Defence Secretary, Denis Healey.[51] The editorial team at *Nature*, who closely followed the Aldabra story, or as they once referred to it, "the war between the Royal Society and the British Ministry of Defence", reported on 3 June:[52]

> Mr. Healey has to contend not with those who criticize his defence policy but with the conservationists led, for once at least, by the formidable president of the Royal Society. Only Mr. Healey can say which experience is the more alarming.[53]

Following their meeting, Healey released a public statement saying that whatever happened, he would make sure that scientific issues were presented fairly to his colleagues and that if construction were to go ahead, the scientific bodies

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[48] SI Fosberg Box 2 'Correspondence – David R. Stoddart, January-July 1967': Lee Talbot to Mr S Dillon Ripley, 20/02/1967; See also in same folder: Fosberg to Stoddart, 27/04/1967; Fosberg to Stoddart, 31/05/1967.
[49] TNA Nature Conservancy [FT 3/616]: Phone conversation Ashley Miles and Anthony Crosland, 02/03/1967.
[50] TNA Nature Conservancy [FT 3/616]: Poore (NC) to Beverton (NERC), 07/03/1967.
[51] Stoddart (2001), 250; Walsh J. (18th August 1967): "Aldabra: Biology May Lose A Unique Island Ecosystem", *Science* **157**, 788-790.
[52] Anon. (3rd June 1967): "More about Aldabra", *Nature* **214**, 965.
[53] Anon. (3rd June 1967): "East of Suez", *Nature* **214**, 957.

concerned would be fully and continuously consulted.[54] Tony Beamish, in his retrospective account of the affair as one of the scientists who visited Aldabra in this period, claims that this was the first sign that the Defence Secretary was taking the matter seriously, having previously used it to score points off the Opposition. Healey said in the House of Commons in April:

> As I understand it, the island of Aldabra is inhabited – like Her Majesty's Opposition Front Bench – by giant turtles, frigate birds and boobies. Nevertheless, it may well provide useful facilities for aircraft.[55]

The journal *Science*, which followed the story to a slightly lesser degree than *Nature*, reported that the Society and its sister academy in America (the NAS) were proving to be "formidable advocates" and that the Royal Society had taken a "strong and unusually public exception" to the MoD proposals.[56]

## 4.4 Inside the corridors of power: managing secrecy and marginalising expertise

### 4.4.1 A 'red herring' strategy

On 31 August 1966, just before the MoD-BBC reconnaissance expedition was due to leave for Aldabra, Lord Shackleton (Minister of Defence for Air Force), mindful of the disquiet amongst several scientists over the development of Aldabra, and the controversial nature of defence facilities in the new colony, met with officials in the MoD along with Stoddart, Holdgate (Nature Conservancy) and representatives of the Foreign Office and the BBC, to make changes to a press release about the expedition. The meeting chose to expand the references to scientific interest in the expedition.[57] However, the manner in which this was

[54] Anon. (3rd June 1967): "More about Aldabra", *Nature* **214**, 965; TNA Nature Conservancy [FT 3/617]: "Scientific Policy Committee: Aldabra Island, Indian Ocean", attached paper "Reply by the Secretary of State for Defence, The Rt. Hon. Denis Healey, to the Royal Society Representation", 07/07/1967.
[55] Beamish T. (1970): *Aldabra Alone* (London: George Allen & Unwin Ltd), 182-183.
[56] Walsh (18th August 1967), 788-789.
[57] TNA Nature Conservancy [FT 3/616]: "Notes of a meeting held by Minister (RAF) on 31st August to consider the Press Release on the forthcoming Aldabra Expedition", Carruthers, 01/09/1966.

discussed in the following letter from J.E. Carruthers (Private Secretary to Lord Shackleton) to M.H.M. Reid (Private Secretary to Prime Minister Harold Wilson) belied the real strategy:

> You will notice that some prominence has been given to the scientific value of Aldabra and to the participation of scientists in the expedition. This is the result of a deliberate move on the part of Lord Shackleton, primarily to try to avoid criticism from scientists both in this country and in others, and partly to draw something of a red herring across the main purpose of the expedition.[58]

Carruthers also communicated this development to Martin Holdgate, Deputy Director of the Conservancy, a close contact of the Minister of Defence, and the person who ran the Conservancy's proceedings on the Aldabra issue.[59] Whilst this 'red herring' strategy lent public credence to a prominent role for the Society, its remit and authority was being disputed within the office of the Conservancy.[60]

### 4.4.2. The Nature Conservancy: "God protect us from our friends"

Since early March 1967, the Society, NERC, which had new responsibilities for the Nature Conservancy, and BMNH had been co-operating to prepare a tripartite memorandum for Crosland, which was largely modelled on Stoddart's original report outlining the effects that proposed developments would have on the unique ecology of Aldabra. Officials in NERC and the Conservancy were unhappy about this arrangement for several reasons. NERC expressed concern to the Conservancy over potential bias within the tripartite arrangement; NERC wanted to ensure that the memorandum would be "strictly a review of the scientific interest and impact of development on which all three parties could agree", lest they become

[58] TNA Prime Minister's Office [PREM 13/1387]: J.E. Carruthers (P.S. to Lord Shackleton, MoD) to M.H.M. Reid (P.S. to PM Wilson), 09/09/1966.
[59] TNA Nature Conservancy [FT 3/616]: Carruthers (P.S. to Lord Shackleton, MoD) to Holdgate (NC), 30/08/1966; TNA Nature Conservancy [FT 3/616]: Holdgate (NC) to Cooper (NERC), 09/11/1966.
[60] See also TNA Nature Conservancy [FT 3/616]: Moss to Brooke-Turner (Defence Dept, FO), 31/08/1966, plus attached "MoD Press Guidance".

associated with ""partisan" expression of views".[61] Officials at the Conservancy expressed further chagrin over the tripartite arrangement because they felt that the Conservancy (as opposed to the Society or the BMNH) should really be leading on the issue as they were the government's advisors on conservation.[62]

The Conservancy's approach to Aldabra soon transpired to be quite conciliatory with the MoD and certainly less sympathetic to the Society's views than the Society had expected. Duncan Poore, the Director of the Conservancy, and its main representative in discussions with the Society, hoped that they could lead discussions between the Society and the MoD towards a "mutually acceptable solution".[63] Martin Holdgate promulgated the opinion amongst officials at the Conservancy that, "if MoD have a constructive approach, we should do everything we can to support it", assuring that "the advice that we may be able to give will, in practice, be of greater significance than the Royal Society's outright opposition".[64]

Holdgate's approach to the issue came to anger some of the conservation campaigners, particularly Fosberg at the Smithsonian, because it was at odds with the goal of the Conservancy, which was one of environmental protection. In March 1967 Fosberg expressed his frustration to the Conservancy, stressing that the environmental campaign required a united front (from the scientists and conservationists), otherwise the ground would be "cut from under [their] feet by British Conservation organisations". He continued:

> For the Nature Conservancy to have concurred in the destruction of this island would be, in my opinion, exactly equivalent to the French Ministry of Culture concurring in the defacement of the Mona Lisa.[65]

Fosberg speculated to Stoddart that the Conservancy's attitude to Aldabra was derivative of their recent battle with the Government over another site, Teesdale,

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[61] TNA Nature Conservancy [FT 3/616]: Cooper (NERC), 08/03/1967; Beverton (NERC) to Poore (NC), 13/03/1967.
[62] TNA Nature Conservancy [FT 3/616]: Poore (NC) to Beverton (NERC), 07/03/1967. See also: Nature Conservancy [FT 3/616]: Cooper (NERC), 08/03/1967; SI Fosberg Box 2 'Correspondence – David R. Stoddart, January-July 1967': Stoddart to Fosberg, 28/02/1967.
[63] TNA Nature Conservancy [FT 3/616]: Poore (NC) to Beverton (NERC), 07/03/1967; Holdgate (2003), 154, 169.
[64] TNA Nature Conservancy [FT 3/617]: Holdgate (NC) to Boyd (NC), 26/06/1967.
[65] TNA Nature Conservancy [FT 3/616]: Fosberg (Smithsonian) to Poore (NC), 03/03/1967. Also in: SI Fosberg Box 2 'Correspondence – David R. Stoddart, January-July 1967': Fosberg to Poore (NC), 03/03/1967.

in the English Pennines. The Conservancy, he claimed, really "burnt their fingers over Teesdale", a case which they lost, and are desperate not to see a repeat.[66] Stoddart concurred: "The grapevine tells me they got truly hammered over this".[67] Holdgate himself commented to one of his colleagues in the Conservancy: "I certainly feel that in the international context this is another Teesdale".[68]

Without the Conservancy's support, the Society knew its case would be significantly undermined and would not gain Crosland's backing.[69] As a result, the Society had to put in much effort to convince Poore at the Conservancy that the case for the preservation of Aldabra was sound. Following a 'tripartite' meeting in March, requests for further evidence were relayed back to Stoddart, which he suspected came from Poore.[70] Shortly after, a redraft of the memorandum by Poore and Holdgate precipitated weeks of extra work for Stoddart, as he attempted to provide sufficient evidence for the Society to "carry the NC along with us".[71] Such incidents led to Stoddart, Fosberg and Sachet developing a nickname for the Conservancy, 'The Disturbancy'.[72]

Although Holdgate was, according to Stoddart, "obsessed with his humiliation […] over Teesdale last year", he also held personal loyalties to the Minister of Defence and was keen to broker a deal on Aldabra that would be to their satisfaction.[73] Indeed, as the controversy developed, the Conservancy seemed to adopt a stance more aligned with the MoD than with the Society. From the outset, Holdgate had been keen to suppress the "emotional activity" of the scientists lest it cause a

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[66] SI Fosberg Box 2 'Correspondence – David R. Stoddart, January-July 1967': Stoddart to Fosberg, 28/02/1967.
[67] SI Fosberg Box 2 'Correspondence – David R. Stoddart, January-July 1967': Stoddart to Fosberg, 07/03/1967. See also in same folder: Stoddart to Fosberg, 11/03/1967.
[68] TNA Nature Conservancy [FT 3/616]: Holdgate (NC) to Poore (NC), 12/01/1967, p2. For Holdgate's account of Teesdale, see Holdgate (2003), 159-163.
[69] SI Fosberg Box 2 'Correspondence – David R. Stoddart, January-July 1967': Stoddart to Fosberg, 28/02/1967; Fosberg to Poore (NC), 03/03/1967.
[70] SI Fosberg Box 2 'Correspondence – David R. Stoddart, January-July 1967': Stoddart to Fosberg, 07/03/1967.
[71] SI Fosberg Box 2 'Correspondence – David R. Stoddart, January-July 1967': Stoddart to Sachet, 25/03/1967. Quote is taken from a letter from the Society to Stoddart which he quotes within his own letter.
[72] SI Fosberg Box 2 'Correspondence – David R. Stoddart, January-July 1967': Stoddart to Fosberg, 28/02/1967; Stoddart to Sachet, 17/03/1967; Sachet to Stoddart, 07/04/1967; Sachet to Stoddart, 29/03/1967.
[73] SI Fosberg Box 2 'Correspondence – David R. Stoddart, September-December 1967': Stoddart to Fosberg, 04/11/1967; TNA Nature Conservancy [FT 3/616]: Holdgate (NC) to Cooper (NERC), 09/11/1966; Carruthers (P. S. to Lord Shackleton, MoD) to Holdgate (NC), 30/08/1966.

breakdown in co-operation, and had questioned the expertise of the Society's scientists, expressing disbelief that the unique flora and fauna would be threatened by the proposed development to the extent that they claimed.[74]

Although the Society's revised memorandum was initially welcomed by NERC for its matter-of-fact style, and endorsed as a fair expression of the tripartite advisory 'panel' in May 1967, the decision was subsequently taken to send a representative of the Conservancy to Aldabra to check whether this memorandum was in fact a fair statement.[75] As such Morton Boyd from the Conservancy accompanied the second Royal Society expedition to Aldabra in August-September of that year.[76] The terms of reference for his visit were as follows:

> 2.1 As far as possible, to check that the memorandum on the scientific interest of the Island, prepared by the Royal Society, Natural Environment Research Council, and the British Museum (Natural History) was a fair statement.
>
> 2.2 To make an independent assessment of the damage to the scientific interest that would result from the proposed development.
>
> 2.3 To advise the Conservancy, N.E.R.C. and the Department of Education and Science, of any practical conservation measures that could be adopted and would mitigate the damage to science if the development proceeds.[77]

In the event, Boyd's visit "generally confirmed" the findings of the joint memorandum, although this unanimity was undermined by service personnel on the expedition who reported back to the Air Ministry that some of the scientists were actually in disagreement and had admitted to certain exaggerations of the uniqueness of Aldabra (more on this in section 4.4.4).[78]

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[74] TNA Nature Conservancy [FT 3/616]: ]: Holdgate (NC) to Nicholson (NC), 22/11/1966; Holdgate (NC) to Fosberg (Smithsonian), 25/11/1966.
[75] TNA Nature Conservancy [FT 3/617]: Martin (Exec. Sec., RS) to Poore (NC), 27/04/1967; Beverton (NERC) to Holdgate (NC), 04/05/1967.
[76] Boyd was Regional Officer in the North West Highlands, NC. Holdgate (2003), 170.
[77] TNA Air Ministry and Ministry of Defence [AIR 20/11804]: "Aldabra: Report following a visit to the atoll by Dr. Morton Boyd", undated (around 09/11/19 67).
[78] TNA Air Ministry and Ministry of Defence [AIR 20/11804]: "Aldabra: Report following a visit to the atoll by Dr. Morton Boyd", undated (around 09/11/19 67).

The Conservancy's co-operation and approval remained difficult to secure, right to the wire. Following the second expedition, the Society drafted a further memorandum on Aldabra which re-stated its original case for total preservation of the island, based on additional evidence. However, the rumours persisted that the scientists were in disagreement following the second expedition. As a result, in early November 1967, another meeting was held at the Society, chaired by Miles, with the purpose of securing the consensus of the BMNH and NERC/ NC in support of the revised memorandum. According to Stoddart, Holdgate (NC) objected to almost everything in it and said that some of the assertions were "completely unsupported".[79] "We are finding it impossible to trust anyone", Stoddart reported to Fosberg, as Holdgate had told the Society that the revised memorandum had not been seen outside the room. Yet Boyd had said that it had been sent informally to Prior at the MoD, who was the source of the report about scientists being in disagreement. "The NC sees Aldabra as a great opportunity in practical co-operation with MoD", wrote Stoddart, and wants to keep "a very wide avenue of escape" in case the MoD decide to build the airfield; "God protect us from our friends".[80]

### 4.4.3 The Defence and Overseas Policy Committee

Meanwhile, the decision had already been taken by the British Government at a meeting of the Defence and Overseas Policy Committee in July 1967 to go ahead with the development of Aldabra. At this meeting, the original tripartite memorandum (from April) by the Society, NERC and BMNH, was presented by Crosland and juxtaposed against a memorandum by Healey on the defence need for Aldabra.

Crosland's covering statement argued that the effects of development on Aldabra would be irreversible, that he could offer no assurance that the scientific opposition would abate, and that, in this case, scientific needs were more

[79] Stoddart's account, not verbatim.
[80] SI Fosberg Box 2 'Correspondence – David R. Stoddart, September-December 1967': Stoddart to Fosberg, 04/11/1967.

imperative than defence needs.[81] Healey argued that the necessary contribution that Aldabra could provide to the "flexibility, economy and speed of our response in relation to Africa, the Far East and the Persian Gulf" outweighed scientific considerations.[82]

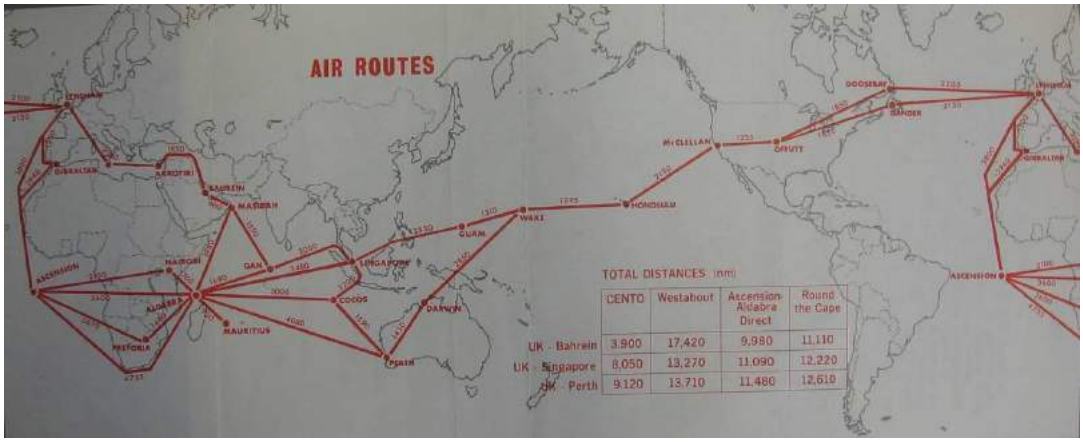


*Image 6: World map showing the military "flexibility" it was hoped that Aldabra could provide.*[83]

On 27 July 1967, the eve of the Committee's decision, Harold Wilson received two letters with two conflicting pieces of advice: the first was from the Chief Scientific Adviser (CSA) to the Cabinet Office, Solly Zuckerman (FRS):

> A great deal of wildlife has been destroyed as man has spread over the world. But if we go ahead with the present proposal, it will be the first time ever that a decision to do such a thing would have been taken against widespread scientific advice. Moreover, we shall bear the odium of the decision at the very moment when the Government of Equador [*sic*] proposes to declare the whole of the Galapagos complex, which is on the Equator to the west of the South American mainland, a nature conservancy. I can well imagine future historians likening the development of Aldabra, and the consequent destruction of its present unique flora and fauna, to, say, the removal of some national

[81] TNA Commonwealth Office: Defence Department [FCO 16/227]: Crosland (Sec State Ed and Sci) to DOPC, 26/07/1967; Copy in TNA Cabinet Office [CAB 148/33 – items 57-58] 'Defence and Oversea Policy Committee'.
[82] TNA Commonwealth Office: Defence Department [FCO 16/227]: Healey (Sec State Defence) to DOPC, 26/07/1967.
[83] Image 6: TNA Cabinet Office [CAB 148/33 – items 57-58].

> monument, such as St. Paul's Cathedral, in order to provide parking space because one does not know how to deal with the traffic problem.[84]

The second was from his Cabinet Secretary, Burke Trend:

> Without the Aldabra route, we might not be able to maintain our important psychological reinforcement of declared intention to retain military capability East of Suez. […] it is doubtful whether, without the Aldabra route, that we could claim that we retained such a range of options […].
>
> It may be the most reliable route open to us in the 70s […] we should therefore consider carefully before abandoning it, if we are serious about our willingness to continue to play a world role in that decade.
>
> The balance of net advantage is a fine one; but, having rehearsed all these conflicting arguments, the Committee may feel that the game should probably be just worth the candle, at least in terms of the credibility of the defence policy to which we are now publicly committed.[85]

The same day, as Wilson spoke late in the evening at a defence debate in the Commons, it was clear where his priorities lay: "the key to our power to intervene", he said, "whether for United Nations peace-keeping purposes or in any other way, is our ability to get there".[86]

Richard Crossman recalled the meeting of the DOPC on the morning of 28 July in his diary. Present were Harold Wilson (chair), George Brown (Foreign Secretary), James Callaghan (Chancellor), Herbert Bowden (Commonwealth Secretary), Denis Healey (Minister of Defence), Richard Crossman (Lord President of the

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[84] TNA Prime Minister's Office [PREM 13/1387]: "British Indian Ocean Territories", Solly Zuckerman to Prime Minister, 27/07/1967; Copy in TNA Records of Chief Scientific Adviser, Solly Zuckerman [CAB 168/239] 'Construction of UK/US communication centre and airstrip on Aldabra'.

[85] TNA Prime Minister's Office [PREM 13/1387]: "Aldabra", Burke Trend to Prime Minister, 27/07/1967; Copy in TNA Records of Chief Scientific Adviser, Solly Zuckerman [CAB 168/239].

[86] Hansard 27/07/1967 'Defence' paragraph 1108: *HC Deb 27 July 1967 Series 5 Vol 751 cc984-1120*; TNA Prime Minister's Office [PREM 13/1387]: F.O. and C.O. Telegram Guidance No. 208, 18/08/1967 - quotes this section of the defence debate on 27 July.

Council and Leader of the House of Commons), and Frank Longford (Lord Privy Seal and Leader of the House of Lords).[87] Crossman himself felt that, in the context of the new defence policy of withdrawing British presence from the Far East, staging posts like Aldabra should not be built. On this issue, George Brown and Frank Longford were in agreement. Only Harold Wilson, Herbert Bowden and Denis Healey were in favour of construction, and even Healey was "half-hearted". Crossman continues:

> This was the first occasion when I've heard the P.M. after collecting the voices and finding he'd lost simply say, 'There's a majority on my side', and so we were committed to Aldabra. At first Callaghan boldly said he would take it to Cabinet. The P.M. said, 'No. It's not a question of policy but a case.' So it's not going to Cabinet and this huge item has been successfully forced through, presumably because either he or Healey committed themselves to it with firm personal pledges.[88]

### 4.4.4 Sitting on a secret: the Defence Ministries

The DOPC decision to approve Healey's plans for the military development of Aldabra was subject to American agreement to share the costs, and for this reason, no public announcement was made.[89] In mid-August more concrete plans were laid down to start construction in April 1968, for completion in 1971.[90] Whilst press statements claimed that plans for Aldabra were being made in close consultation with the Royal Society, in actuality the decisions were being made

[87] The official membership of the DOPC at this time, according to the National Archives research guide, should have been as follows: Prime Minister (chair) – Harold Wilson, 1st Secretary of State – Michael Stewart (1st Secretary at Department of Economic Affairs), Foreign Secretary – George Brown, Chancellor of the Exchequer – James Callaghan, Home Secretary – Roy Jenkins, Commonwealth and Colonial Secretary – Herbert Bowden, Minister of Defence – Denis Healey. On 28th July, perhaps the absence of Michael Stewart and Roy Jenkins explains the presence of Richard Crossman and Frank Longford.

[88] Crossman, R. (1976): *The Diaries of a Cabinet Minister Volume Two: Lord President of the Council and Leader of the House of Commons 1966-1968* (London: Hamish Hamilton & Jonathan Cape), 448-449.

[89] TNA Commonwealth Office: Defence Department [FCO 16/227]: "Extract from minutes of a meeting of the Defence and Oversea Policy Committee held on 28/07/1967"; "Aldabra", L.B. Walsh Atkins (Assistant Under-Secretary) to Secretary of State, 20/07/1967.

[90] TNA Prime Minister's Office [PREM 13/1387]: from Healey (MoD) to McNamara (DoD, Washington), 16/08/1967

whilst Stoddart (representing the Society), and Boyd from the Conservancy, were in Aldabra on the second expedition (August-September 1967). Here, as Wing Commander P.E. Prior, the Commanding Officer of the Aldabra base, reported back to the Air Ministry, "no duty-free liquor was spared to obtain a good working relationship with the scientists".[91]

The 'Royal Society' expedition was in fact a joint military/scientific voyage on *HMS Vidal*, which called first at Diego Garcia. This part of the voyage was a classified American expedition related to their development of Diego Garcia as a military base. According to Stoddart, the visit to Diego Garcia had to remain secret because of the political embarrassment of having US bases on British territory so close to India.[92] Due to the joint nature of the expedition, the Society was entrusted with knowledge of the visit to Diego Garcia, and subsequently several scientists were permitted to join the Diego Garcia arm of the voyage to carry out some research. However, the Society was keen to draw the boundaries between the two expeditions. As Stoddart explained to Fosberg, the USA classified expedition 'ends' at Mombasa, although the American personnel may not leave the expedition. The publicised Royal Society Aldabra expedition then 'begins' here at Mombasa. "The Royal Society Aldabra expedition thus has nothing to do with the "secret" visit to Diego Garcia."[93] Representatives of the Society had to keep quiet at the wish of the Royal Navy.[94] They were willing to comply as they did not want the Navy to think that they were a security hazard. Stoddart wrote to Sachet: "The RS's first reaction is to shrink into its shell in case it damages its navy pipeline".[95]

It is an indication of the continued influence of the scientific lobby, that, despite the decision having already been taken to develop Aldabra, members of the MoD party placed much emphasis on alleged disagreements amongst the scientists in

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[91] TNA Air Ministry and Ministry of Defence [AIR 2/16849]: "Report on the Royal Society expedition to Aldabra, August/September 1967. By Wing Commander P.E. Prior, Aldabra Project Officer" p3; TNA Commonwealth Office: Defence Department [FCO 16/228] 'Strategic Planning: Aldabra': "Aldabra: Preliminary conclusions following the recent survey", pp5-6, 04/10/1967; TNA Prime Minister's Office [PREM 13/1387]: Priority/ Foreign Office & CO to certain missions and dependent territories, 18/08/1967.
[92] SI Fosberg Box 2 'Correspondence – David R. Stoddart, January-July 1967': Stoddart to Fosberg, 08/04/1967
[93] Ibid.
[94] SI Fosberg Box 2 'Correspondence – David R. Stoddart, January-July 1967': Stoddart to Fosberg, 10/04/1967
[95] Ibid.

their report of the expedition. Wing Commander P.E. Prior, the Commanding Officer of the Aldabra base, reported to the Air Ministry:

> During our investigations it became evident to the MoD party and to the scientists themselves that there had been much exaggeration in statements about Aldabra. [...] Dr. Boyd of the Ministry of Education and Science [of the Nature Conservancy], together with Mr. Peake and Mr. Price of the British Museum (Natural History), were the three members of the party who commented most strongly on the exaggerations of earlier scientific statements and who seemed most willing to accept that a compromise was possible between scientific and military interests. [...] In fact, by the end of the stay on Aldabra; only Dr. Stoddart and perhaps two of the younger members of the party were maintaining the vehemence of their earlier opposition.[96]

Meanwhile, at an interdepartmental meeting held in the MoD on 22 September, it was discussed how best to deal with the Society upon the return of their Aldabra expedition, when it was expected that they might refresh the environmental campaign. At this meeting, it was decided that the MoD must delay the announcement until after the results of the expedition had been made available, so as to not appear to have made the decision without the Society's guidance. The announcement was planned for 12 October and Blackett (PRS), they decided, should be told one or at most two days before, so as to reduce the window of opportunity for protest.[97]

Upon his return, Stoddart was called straight to the Society where he found panic. The Department of Education and Science had rung and wanted an urgent meeting with Stoddart and David Martin (Executive Secretary, RS). An Under-Secretary presently appeared and said that a decision on Aldabra would take place within

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[96] TNA Air Ministry and Ministry of Defence [AIR 2/16849]: "Report on the Royal Society expedition to Aldabra, August/September 1967 by Wing Commander P.E. Prior, Aldabra Project Officer" pp3-4.

[97] FCO Commonwealth Office: Defence Department [FCO 16/228]: "Aldabra: Notes of a meeting held in the Ministry of Defence at 10.45 am on Friday, 22nd September, 1967", 25/09/1967. Copy in TNA Commonwealth Office and Foreign and Commonwealth Office [FCO 32/114] 'Negotiations with US for sharing costs of the airfield on Aldabra': item 93, 22/09/1967. The meeting included representatives of the Department for Education and Science, Foreign Office and Commonwealth Office.

days; his information was that if the Society decided that their original statement had been in error, and publicly retracted it, the MoD would "give them the earth in the way of facilities" on Aldabra.[98]

Following the expedition, according to Fosberg, Woody Seaman from the MoD party was in America "attempting to brainwash everyone from the President's Science Advisor […] and Dr. Seitz of the Academy [NAS] on down" into thinking that that the scientists were divided in their opinion and that Aldabra would be safer in the hands of the RAF.[99] Back in Britain, Stoddart had been made aware that Prior's report on the expedition had claimed that the scientists were deeply divided. According to Stoddart, Prior had reported "that Morton Boyd and I were 'at loggerheads'; which is simply grotesquely untrue […] but damaging nevertheless".[100] He reported to Sachet: "Prior seems to have told a lot of deliberate lies […] in an effort to undermine the RS position in MoD".[101]

Despite the decision having been made to proceed with Aldabra in the face of scientific opposition, there was clearly still some concern about the scientific lobby. One reason for this, Tam Dalyell MP understood from Lord President of the Council, Richard Crossman, was that the Secretary of State for Education and Science, Patrick Gordon Walker, had "blundered repeatedly" over educational reform and over the British Museum library, and they simply could not afford to have the BMNH and the Society in public opposition to the DES.[102] Another aspect was certainly the crescendo of public debate on the issue, especially within the House of Commons.

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[98] SI Fosberg Box 2 'Correspondence – David R. Stoddart, September-December 1967': Stoddart to Fosberg, 30/09/1967.
[99] SI Fosberg Box 2 'Correspondence – David R. Stoddart, September-December 1967': Fosberg to Stoddart, 11/10/1967. See also in same folder: Sachet to Stoddart, 06/10/1967; Fosberg and Sachet to Stoddart, 16/10/1967.
[100] SI Fosberg Box 2 'Correspondence – David R. Stoddart, September-December 1967': Stoddart to Fosberg, 07/10/1967.
[101] SI Fosberg Box 2 'Correspondence – David R. Stoddart, September-December 1967': Stoddart to Sachet, 08/10/1967.
[102] SI Fosberg Box 2 'Correspondence – David R. Stoddart, September-December 1967': Stoddart to Fosberg, 04/11/1967.

### 4.5 Public debate

One of the tactics of the Anglo-American campaign was to increase public pressure by lobbying Congressmen and MPs and encouraging others to do so.[103] In Britain, the scientific lobby found a strong ally in Mr. Tam Dalyell, Labour MP for West Lothian. Dalyell was well-placed and pre-disposed to support such a cause. He was Richard Crossman's Parliamentary Private Secretary and flatmate, giving him access to inside information.[104] Science was one of his self-appointed specialities in Parliament, and since his arrival in the House of Commons in 1962 he had been ingratiated, courtesy of Hugh Gaitskell, into a group of left-wing scientists, including Bernal and Blackett.[105]

Dalyell recalls that he received a letter about Aldabra out of the blue from Ashley Miles. Consequently, he invited Miles and Stoddart to have lunch with him in the Houses of Parliament, whereupon he decided to go further than simply tabling a few Parliamentary Questions on the issue. He sat with Stoddart and devised seventy Parliamentary Questions to different ministries. This meeting precipitated a close working relationship on Aldabra, in which Stoddart was Dalyell's on-call expert, and also marked "the beginning of a lifelong personal friendship".[106] Subsequently, Dalyell raised the issue with the Prime Minister, the Foreign Secretary, and the Minister of Defence, but to no avail.[107] He had relative success with Solly Zuckerman, who assured him that he was watching the matter carefully.[108] He also raised the issue with his contacts in Washington, who in turn raised it with the Defense Secretary, Bob McNamara, and President Johnson.[109]

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[103] SI Fosberg Box 2 'Correspondence – David R. Stoddart, January-July 1967': Fosberg to Stoddart, 27/04/1967; Fosberg Box 2 'Correspondence – David R. Stoddart, September-December 1967': Stoddart to Sachet, 19/10/1967; Fosberg to Stoddart, 03/11/1967.

[104] Dalyell T. (2011): *The Importance of Being Awkward: The Autobiography of Tam Dalyell* (Edinburgh: Berlinn Ltd), 95. Dalyell had occupied this position since the 1964 general election; SI Fosberg Box 2 'Correspondence – David R. Stoddart, September-December 1967': Stoddart to Fosberg, 04/11/1967.

[105] Dalyell (2011), 83-85, 88-89.

[106] Ibid. 124-125.

[107] Ibid. 126-127.

[108] UEA Zuckerman [SZ/CSA/170] 'Aldabra, 1967': item 10, Dalyell to Zuckerman, 26/08?/1967; item 11, Zuckerman to Dalyell, 30/10/1967.
Zuckerman gained a reputation as a relentless critic of defence proposals during his time as CSA to the MoD. See Krohn P. L. (1995): "Solly Zuckerman Baron Zuckerman, of Burnham Thorpe, O.M., K.C.B. 30 May 1904-1 April 1993", *Biographical Memoirs of Fellows of the Royal Society* **41**, 592-593.

Around mid-October 1967, Dalyell wrote to the Speaker of the House of Commons asking for an adjournment debate on Aldabra, and by this time several other MPs had joined him in trying to raise the issue in Parliament.[110] The debate went ahead in the House of Commons on 25 October 1967, at which Under-Secretary of State for Defence for the RAF, Mr. Merlyn Rees told the House ten times that no decision had yet been taken on Aldabra. Dalyell, briefed at length by Stoddart that morning, opened the debate with a seventeen-page deconstruction of all aspects of the proposed development, questioning engineering practicalities and defence policy as thoroughly as he criticised the disregard for ecological expertise.[111] Dalyell also expressed his unhappiness that key channels of advice had been left relatively untapped by the Government. He ventured that a Select Committee should hear from those involved in the matter, including Sir Solly Zuckerman, and "certainly the President of the Royal Society, Patrick Blackett", with the expedition members also called as witnesses.[112]

Dalyell and Rees soon found another arena in which to rehearse their arguments. They appeared alongside Stoddart and Boyd (NC) to discuss the Aldabra affair on the BBC2 discussion programme "Late Night Line-up" on 6 November 1967. The transcript shows the discussion was quite heated, as alluded to in Joan Bakewell's

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**Solly Zuckerman** (FRS 1943) was a biologist. During the early years of WWII he worked for the Ministry of Home Security Research Department studying the effects of bombing on humans. From 1943 he worked on operational research in the Middle East. After the war he took up a post in the Anatomy Department at the University of Birmingham. He joined the Council of the London Zoo in 1955, becoming its Secretary in 1957. He was Deputy Chairman of the ACSP from 1947 until it disbanded in 1964. He was the UK representative to the NATO Science Committee and an important participant in the Pugwash movement. In October 1964 Harold Wilson invited him to join the Government as a Minster of State in the Foreign Office with responsibility for disarmament talks. He firmly refused. Instead he took up a post as CSA to the MoD and HMG. However, he did not hit it off with Denis Healey and from the 1965 Defence Review they parted ways. Thereafter Zuckerman was a full-time CSA in the Cabinet Office. Krohn (1995), 576-598; Sharp D. (ed) (2001): "The Zuckerman Archive: A General Guide" (University of East Anglia), 218.

[109] Dalyell (2011), 128-129.

[110] SI Fosberg Box 2 'Correspondence – David R. Stoddart, September-December 1967': Stoddart to Sachet, 19/10/1967; Stoddart to Fosberg, 25/10/1967.

[111] SI Fosberg Box 2 'Correspondence – David R. Stoddart, September-December 1967': Stoddart to Fosberg, 28/10/1967; Hansard HC Debate 25th October 1967: "Island of Aldabra (Staging Post)," vol. 751, 1830-1852. Copy available in: TNA Records of Chief Scientific Adviser, Solly Zuckerman [CAB 168/239].

[112] Hansard HC Debate 25th October 1967: "Island of Aldabra (Staging Post)", vol. 751, 1830-1831.

concluding comment: "Well, so much for the real problems of Aldabra".[113]A prominent issue that arose in the discussion was the utility and sincerity of scientific expertise, as evidenced in the following exchange:

> Mr. Dalyell: Why should I, as an outside Member of Parliament, believe your advisers rather than David Stoddart here who has actually been to the island?
>
> Mr. Rees: Well, because my people are pilots who fly and are used to it and David Stoddart is a scientist.[114]

Rees also questioned the scientific claims on which the conservation campaign was based, commenting that, whilst Aldabra's ecosystem was unique, it was "not quite so unique as perhaps is being stressed", and there had been more human contact with the island than was being acknowledged.[115] Stoddart wrote to Fosberg afterwards that there was little doubt that their side had carried the night; one of "our spies" in the MoD told him that staff there were furious with the Minister (Rees), who failed to impress despite being heavily briefed beforehand. He also found out that Boyd (NC) had been included in the debate at the request of the MoD, in order to counterbalance Stoddart, and had been briefed by "all the top hierarchy" in the NC and DES beforehand. Even so, Stoddart reported, Boyd came out overall on the Society's side and was now worried that he might get the sack.[116]

The Society continued to brief Dalyell regularly throughout the controversy and he also made investigations of his own.[117] It is possible that Dalyell knew more than he was letting on. In a diary entry on 8 November 1967, Crossman expressed his confidence in Dalyell's "one-man campaign on Aldabra [...]. Already he knows more about it than anyone except Denis Healey [...]. I think he's going to win".[118] On 11 November Stoddart told Fosberg that Dalyell's impression was that the

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[113] BBC2 Television "Late Night Line-Up" 6 November 1967, 11.25pm. Duration: 29min. p18. Copy of transcript in TNA Air Ministry and Ministry of Defence [AIR 20/11804].
[114] Ibid. 12.
[115] Ibid. 9-10.
[116] SI Fosberg Box 2 'Correspondence – David R. Stoddart, September-December 1967': Stoddart to Fosberg, 11/11/1967.
[117] SI Fosberg Box 2 'Correspondence – David R. Stoddart, September-December 1967': Stoddart to Fosberg, 28/10/1967.
[118] Crossman (1976), 562.

MoD had already decided to build the base, but would not announce it until the furore had died down. Dalyell told his contacts at the Society that for this reason, they must keep the pressure up, and he urged them to make another press statement, which they did. They also planned to use their connections with ex-PRSs in the House of Lords to raise the issue there. Lord Ridley had asked for a debate on Aldabra in the Lords, and the Society had begun briefing peers who might speak, including Lord Fleck a former PRS who they felt would probably put the Society's case.[119]

Public interest peaked in November 1967, on both sides of the Atlantic. Fosberg reported to Stoddart in early November that he was receiving many letters from people wanting to know how they could help the campaign to preserve Aldabra; he encouraged them to lobby their Congressmen.[120] Meanwhile, Dalyell kept up the pressure in Parliament. He had lunch with Stoddart to go over his House of Commons speech and draft a further batch of Parliamentary Questions. At least some of them were intended simply to ridicule the whole affair.[121] Shortly after, the Speaker ruled that fifty questions was a reasonable limit on tabled questions for any one MP. This backfired, as it angered backbenchers who then took on Dalyell's extra questions, thus broadening the campaign.[122]

However, as opposition within the House of Commons mounted during November, there were indications that it was not simply on behalf of the scientific lobby. Crossman had confided in Dalyell that, if Aldabra went to Cabinet at this stage, it would be thrown out because the Government had become deeply unpopular and many left-wing members of the Government and on the back benches had become very restive.[123] Officials in the Commonwealth Office commented that there had

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[119] SI Fosberg Box 2 'Correspondence – David R. Stoddart, September-December 1967': Stoddart to Fosberg ,11/11/1967.
[120] SI Fosberg Box 2 'Correspondence – David R. Stoddart, September-December 1967': Fosberg to Stoddart, 03/11/1967.
[121] SI Fosberg Box 2 'Correspondence – David R. Stoddart, September-December 1967': Stoddart to Fosberg, 04/11/1967.
[122] SI Fosberg Box 2 'Correspondence – David R. Stoddart, September-December 1967': Stoddart to Fosberg, 11/11/1967.
See also UEA Zuckerman [SZ/CSA/170]: item 12, Political Correspondent (November 2 1967): "MP tables 39 questions on Aldabra staging post", *The Daily Telegraph*; item 17 "Questions on Aldabra tabled in the House of Commons".
[123] SI Fosberg Box 2 'Correspondence – David R. Stoddart, September-December 1967': Stoddart to Fosberg, 04/11/1967.

been a widening of the *political* campaign against Aldabra. Referring to questions tabled in the House of Commons order paper, C.A. Seller (Dependent Territories Division) in the Commonwealth Office commented that Dalyell "has now been joined by a sizeable array of MPs whose political sympathies would I suspect incline them to oppose a staging facility on grounds which are probably not ecological".[124] The context for these remarks was controversies over decolonisation and withdrawing a British military presence East of Suez. Indeed, in his memoirs, Healey sets Aldabra in this context. He comments that "there was a growing clamour among Labour MPs for us to abandon our East of Suez role immediately; in this chorus, the voices of the Common Marketeers provided a counterpoint to those of the anti-colonialist Left".[125] Dalyell has also commented with reference to Aldabra, that Crossman sympathised with anything that would unhinge the Government's East of Suez strategy.[126]

### 4.6 The 11th Hour

From early October 1967, Stoddart was receiving promising news from Fosberg in America that the DoD was now adopting a very reasonable attitude in light of the scientific opposition.[127] Meanwhile, the MoD, according to Stoddart, was panicking, having: a) failed to 'buy off' the Society with promise of elaborate facilities 'if Aldabra went ahead'; and b) received Boyd's (NC) confirmation of the Society's tripartite memorandum.[128] Subsequently, having read the Seaman

[124] TNA Commonwealth Office and Foreign and Commonwealth Office [FCO 32/115] 'Negotiations with US for sharing costs of the airfield on Aldabra': item W151, Seller to Fairclough, 14/11/1967. Negotiations with US for sharing costs of the airfield on Aldabra

[125] Healey D. (1989): *The Time of My Life* (London: Michael Joseph), 292-293, quote on p293. See also Beamish (1970), 195. Here he claims that "it was obvious that Dalyell's chief concern was not conservation".

[126] Dalyell (2011), 126-127.
Despite this, Dalyell felt that Crossman proved to be a bit useless because he refused to be seen by others as a pawn to his Parliamentary Private Secretary.
See also UEA Zuckerman [SZ/CSA/58] 'East of Suez Policy – C. Mayhew, 1966': Item 1: Defence Correspondent (1966): "Some unknown quantities in the East of Suez policy", *The Times*.

[127] SI Fosberg Box 2 'Correspondence – David R. Stoddart, September-December 1967': Fosberg to Stoddart, 05/10/1967.

[128] SI Fosberg Box 2 'Correspondence – David R. Stoddart, September-December 1967': Stoddart to Fosberg, 07/10/1967.
As well as the DES Under-Secretary's attempt to convince the Society to publicly retract their statement in exchange for 'the world of facilities' on Aldabra (p27), according to Stoddart, at an

and Prior reports from the August-September 1967 expedition, which claimed that statements about Aldabra had been exaggerated, and that there was disagreement amongst the scientists, the MoD began ringing individual scientists, asking them to make statements to undermine this unanimity.[129]


*Image 7: A cartoon in the Sunday Mirror by David Langdon, 26 November 1967.*[130]

On 11 October a telegram from Washington arrived at the Foreign Office to the effect that there was a financial deadlock in Congress; all new defence construction projects except those relating directly to Vietnam or the development of major weapons systems were being held up.[131] News followed in a letter the

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Aldabra Committee meeting in early October, the Society virtually got a blank cheque for expedition research, especially if the MoD decided to go ahead.

[129] SI Fosberg Box 2 'Correspondence – David R. Stoddart, September-December 1967:' Stoddart to Fosberg, 07/10/1967.

[130] Image 7: Langdon D. (26th November 1967) *Sunday Mirror*: British Cartoon Archive, University of Kent, image 12365.

[131] TNA Commonwealth Office: Defence Department [FCO 16/228]: Washington to Foreign Office, 11/10/1967. Copy in TNA Commonwealth Office and Foreign and Commonwealth Office [FCO 32/114].

next day that Defense Secretary Robert McNamara could no longer give his assurance that the Americans could pay their 50% contribution to Aldabra. The same letter reported that the scientific lobby had been pressurising McNamara personally, along with the President through his scientific advisory committee. Meanwhile, Seaman's claims of exaggeration by the Society and disagreement between scientists were being prepared for submission (in America) as a counter argument to the scientific lobby.[132]

According to Fosberg, however, the DoD were already on-side with the scientific lobby; their hesitance was due to the fact that they were dealing with British territory, and the knowledge that the MoD were not budging on the location. Fosberg's acquaintances in the Pentagon told him any change on Aldabra would have to be brought about by pressure on the MoD by British scientists. He said that the Americans were willing to pay the difference in price of relocating to another island.[133] This information was relayed to the Society by Stoddart, and on 28 October, Stoddart also sent an excerpt of Fosberg's (anonymised) letter to the *Times* in order to publicise evidence that it was Britain that were refusing to budge, whilst the USA were prepared to be more flexible.[134] Questions were already being asked in Parliament to this effect, suggesting that knowledge was already circulating of Britain's inflexibility in the Anglo-American discussions.[135] Dalyell was told in confidence about the American attitude by Miles and subsequently tabled a question on this aspect to the PM and the Foreign Secretary.[136] At the end of October 1967, Miles and Fosberg attended a meeting at the Smithsonian to advise the DoD on the Aldabra situation. The resulting report submitted to the DoD came down firmly on the side of preserving Aldabra, and on 1 November

[132] TNA Commonwealth Office and Foreign and Commonwealth Office [FCO 32/114]: British Embassy, Washington DC to Defence Department, FO, 12/10/1967. See also: SI Fosberg Box 2 'Correspondence – David R. Stoddart, September-December 1967': Fosberg to Stoddart, 11/10/1967 – for commentary of Seaman's behaviour.

[133] SI Fosberg Box 2 'Correspondence – David R. Stoddart, September-December 1967': Stoddart to Sachet, 19/10/1967; Fosberg (?) to Stoddart, 24/10/1967; Fosberg to Stoddart, 25/10/1967.

[134] SI Fosberg Box 2 'Correspondence – David R. Stoddart, September-December 1967': Stoddart to Charles Douglas-Home (Alec Douglas-Home's nephew), Defence Correspondent, *The Times*, 28/10/1967.

[135] SI Fosberg Box 2 'Correspondence – David R. Stoddart, September-December 1967': Anon. (1967): "No Defence Decision on Aldabra," *The Times*. 26 October. See also *Hansard* 25 October 'Aldabra Staging Post' Copy in TNA Records of Chief Scientific Adviser, Solly Zuckerman [CAB 168/239]

[136] SI Fosberg Box 2 'Correspondence – David R. Stoddart, September-December 1967': Stoddart to Fosberg, 28/10/1967.

Fosberg gained sight of a copy of a letter sent to McNamara with a very firm recommendation to use a different island.[137]

Around 20 October, a new report on the bird strike problem by Mr. E.N. Wright, one of the government's own advisers, was circulated amongst Government departments, which presented the problem as being significantly more serious than was previously thought.[138] This was read within the Commonwealth Office, alongside the wavering in Washington, as justification for a potential 11th hour re-appraisal of the Aldabra project.[139] They began discussions with the Governor of the Seychelles as to the possibility of using Mahé as an alternative site.[140] By 30 October this had become a solid proposal as part of the Commonwealth Office's bid to engineer a U-turn on Aldabra. The new attitude in America, the scientific lobby (being taken very seriously by the US Government), and the last minute appearance of serious evidence on the bird strike hazard were the key reasons behind this.[141]

The mounting support within the Commonwealth Office for an 11th hour re-appraisal was met with fierce opposition from the MoD.[142] According to Seller in the Commonwealth Office, the MoD could not take seriously the idea that Aldabra could be dropped for anything other than strategic reasons.[143] The desirability of Aldabra, from a purely RAF (as distinct from American) point of view, was to do with its long-range distance from the base on Ascension Island via the Southern Coast of Africa, and its striking distance from East Africa. Aldabra was within the critical radius of the long-range strategic transport of the RAF's VC 10 fleet,

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[137] SI Fosberg Box 2 'Correspondence – David R. Stoddart, September-December 1967': Fosberg to Stoddart, 01/11/1967.
[138] Beamish (1970), 193.
[139] TNA Commonwealth Office and Foreign and Commonwealth Office [FCO 32/114]: item 124.
[140] TNA Commonwealth Office and Foreign and Commonwealth Office [FCO 32/115]: item 129, Priority Seychelles to Commonwealth Office, 26/10/1967; item 139, Sir Hugh Norman-Walker (Government House, Seychelles) to Sir Arthur Galsworthy (Deputy Under-Secretary, Commonwealth Office), 26/10/1967.
[141] TNA Commonwealth Office and Foreign and Commonwealth Office [FCO 32/115]: item 140, C.A. Seller, 30/10/1967.
[142] TNA Commonwealth Office and Foreign and Commonwealth Office [FCO 32/115]: item 137, C.A. Seller (Commonwealth Office) to George Moss (MoD), 01/11/1967 ; item 141, Seller to Fairclough, 11/1967; item 143, Seller, 05/11/1967; item 144, John Mayne (MoD) to Seller (Commonwealth Office), 03/11/1967.
[143] TNA Commonwealth Office and Foreign and Commonwealth Office [FCO 32/115]: item 144, John Mayne (MoD) to Seller (Commonwealth Office), 03/11/1967.

whereas Mahé was further East into the Indian Ocean.[144] There was also some dispute over the radial action of the F111 aircraft, making it potentially unsuitable for Mahé.[145] In addition to these technical objections, rumours were circulating that the MoD were just too proud to concede on the project, and that Harold Wilson and Lord Shackleton (former Minister of Defence for Air Force) were too personally committed to back down.[146]

The Commonwealth Office were not without their own agenda. The much cheaper alternative to Aldabra, a joint-user (defence and civilian) base in Mahé, was very popular with the Governor of the Seychelles. At a Departmental discussion, it was suggested that a Seychelles airport was essential to the future of the colonial territory.[147] The following day, 9 November, an inter-departmental meeting was held to discuss the merits of Aldabra versus Mahé.[148] The MoD spokesman stressed that there was no chance of a decision in favour of Mahé as it had to be ruled out on the grounds of distance. He also claimed that the Americans were not

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[144] TNA Commonwealth Office and Foreign and Commonwealth Office [FCO 32/115]: item 151A, "Note of a meeting held in Mr Morgan's office at 4pm on Wednesday, 15th November, 1967".

[145] TNA Commonwealth Office and Foreign and Commonwealth Office [FCO 32/115]: item 149, Seller, 08/11/1967.

[146] SI Fosberg Box 2 'Correspondence – David R. Stoddart, September-December 1967': Fosberg to Stoddart, 25/10/1967. Fosberg's acquaintance in the Pentagon told him that British reluctance was now more about face-saving than the impracticality of building the base elsewhere; SI Fosberg Box 2 'Correspondence – David R. Stoddart, September-December 1967': Stoddart to Fosberg, 04/11/1967.

As Dalyell told Stoddart, his impression was that Healey himself was embarrassed about the whole thing and wanted to be rid of it, but he was under strong pressure to approve it. Dalyell told Stoddart that two people in the British Government were behind Aldabra – the PM, for whom it was now a matter of personal pride, and Lord Shackleton, who had previously convinced Stoddart that he was on their side. Stoddart told Fosberg that he had heard rumours that the reason the PM was behind it had nothing to do with defence or foreign policy, but something else that he could not relay in a letter. Wilson's personal involvement also mentioned in: SI Fosberg Box 2 'Correspondence – David R. Stoddart, September-December 1967': Fosberg to Stoddart, 08/11/1967; TNA Nature Conservancy [FT 3/616]: "Liaison with Ministry of Defence", Holdgate (NC) to Cooper, 01/11/1966. Here Holdgate says that Aldabra is "Particularly a personal ploy of [Shackleton's] but one which he wishes to impress on his officials as being worthwhile". This is at odds with Holdgate's retrospective account of the affair in which he claims that Shackleton assured him that he would not allow the development of Aldabra to go ahead. However, Holdgate's entire recollection of the episode is at odds with information in the archives. In his memoirs Holdgate claims that there was almost unanimous scientific agreement that the building of the airfield would be indefensible, and that the Conservancy objected strongly to the proposals but were unable to persuade Ministers. He claims that the impetus for Boyd's visit to Aldabra was to get the best possible scientific argument to oppose the development. Holdgate (2003), 169-170.

[147] TNA Commonwealth Office and Foreign and Commonwealth Office [FCO 32/115]: item 149A, "Record of a Discussion in the Office of the Minister of State, 11.30 am, 8 November, 1967"; item 149, Seller, 08/11/1967.

[148] Represented at the meeting were: Commonwealth Office (inc chair), Governor Seychelles, Treasury, MoD, Defence Department in Commonwealth Office, Foreign Office.

wavering, the scientific campaign lacked influence, and the bird strike problem was controllable.[149] Following this meeting, the Commonwealth Office adopted the attitude that there was little point or hope in trying to counter the MoD.[150]

However, they had one key ally, the Treasury. At the inter-departmental meeting, the Treasury spokesperson had joined the Commonwealth Office in stressing the considerable merit of Mahé as an alternative. A last minute decision in favour of Mahé would potentially save, according to the Commonwealth Office, no less than £25 million.[151] In his memoirs, Healey comments that Aldabra sat in the wider context of withdrawal from East of Suez; in this connection he was under pressure from the Treasury to cut spending, and from the Foreign and Commonwealth Office (FCO) not to cut military commitments, whilst the Defence Services supported a continued role East of Suez.[152] As far as can be ascertained, it was the financial argument that eventually won out. On 18 November the Government were forced to concede to the severity of the economic situation and devalue the pound. On the same day, Healey wrote to McNamara, stating the economic situation and resulting defence cutbacks as the reason he had been forced to abandon the project.[153]

Four days after the devaluation of the pound, Harold Wilson announced the abandonment of the Aldabra scheme in the House of Commons on 22 November 1967, blaming defence cuts.[154]According to a report in the *Guardian*, the announcement was greeted with "loud laughter and prolonged ministerial cheers". *Science* attributed this reaction largely to Tam Dalyell "who fought an energetic battle for Aldabra in the Commons".[155] Healey also relayed the economic

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[149] TNA Commonwealth Office and Foreign and Commonwealth Office [FCO 32/115]: item 149, Seller, 08/11/1967.
[150] TNA Commonwealth Office and Foreign and Commonwealth Office [FCO 32/115]: item W151, Seller to Fairclough, 14/11/1967; item 151A, "Note of a meeting held in Mr Morgan's office at 4pm on Wednesday, 15th November, 1967".
[151] TNA Commonwealth Office and Foreign and Commonwealth Office [FCO 32/115]: item 148 "Note of a Meeting held in Sir Arthur Galsworthy's Office at 3pm on Monday, November 6th" p8.
[152] Healey (1989), 292-293.
[153] TNA Commonwealth Office and Foreign and Commonwealth Office [FCO 32/115]: item E3492, 18/11/1967.
[154] Hansard HC Debate 22nd November 1967, vol. 754 cc1341; Anon. (2nd December 1967): "All Change on Aldabra", *Nature* **216**, 841; Stoddart (1968a), 63-69; TNA Commonwealth Office and Foreign and Commonwealth Office [FCO 32/126] 'Establishment of a research station on Aldabra': "Future of Aldabra still uncertain" *The Times*, 20/02/1968.
[155] Walsh J. (1st December 1967): "Aldabra: Reprieve for an Island", *Science* **158**, 1164.

explanation to Blackett on 30 November: "as part of £100m cut in next year's defence budget, we have decided not to proceed with Aldabra". Blackett's reply set in motion the plans to establish a permanent research station on the island.[156]

The announcement in the House of Commons made no connection between the scientific campaign and the abandonment of the scheme. Furthermore, when Healey discussed the defence cuts in the House of Commons on 27 November, he admitted that "the Government had decided their view in this matter, subject to agreement by the United States Government to join us in the project".[157] This was also reported in *Nature* on 2 December.[158] Yet, in the next section we will explore how a legacy of Aldabra emerged which explicitly made the connection between the campaign led by the Royal Society and the cancellation of the airbase scheme.

## 4.7 Aldabra narratives re-visited

### 4.7.1 Narrative 1: "Islanders less important than tortoises"

With the recent controversy surrounding the depopulation of Diego Garcia, legacies of Wilson's first Labour Government and the Aldabra affair are quite visible in the 21st Century media. The sub-heading "Islanders less important than tortoises" in a *BBC News* article from November 2000 neatly illustrates the enduring narrative that sees the Royal Society 'campaign' as influential and ultimately successful in persuading the British Government to choose an alternative site for the airfield.[159] The "islanders" here are the inhabitants of Diego Garcia, who were resettled when it became the 'alternative' site for the Anglo-American military airfield. This narrative must be challenged, not only because the Royal Society campaign was not successful in the way imagined here, but because government files clearly show that the airfield on Diego Garcia was a separate and parallel project, and not contingent on the fate of Aldabra.[160] Whilst not wishing to

[156] TNA Air Ministry and Ministry of Defence [AIR 20/11804]: Healey to Blackett, 30/11/1967; Blackett to Healey, 05/12/1967.
[157] Hansard HC Deb 27 November 1967 vol. 755 cc 65-66.
[158] Anon. (2nd December 1967): "Parliament in Britain – Aldabra", *Nature* **216**, 847.
[159] Anon. (3rd November 2000): "The Chagos Islands: A sordid tale", *BBC News*.
[160] For example, see TNA Prime Minister's Office [PREM 13/1387]: "Defence interests in Indian Ocean", CRO to BHC, 06/07/1965; SI Fosberg Box 2 'Correspondence – David R. Stoddart, January-July 1967': Stoddart to Fosberg, 08/04/1967; TNA Colonial Office and Commonwealth

defend the actions of the British and American governments with regards to the depopulation of Diego Garcia, it is nevertheless problematic that the argument that local inhabitants were less important than tortoises, or rather the views of the British scientific Establishment, has been used to support claims that those governments acted upon supremacist or racist instincts. The *BBC News* article followed such a line of argument: "When it came to having rights, the local population proved to have considerably less clout than giant tortoises".[161]

An excerpt from *Freedom Next Time,* an exposé about the depopulation of Diego Garcia by prominent journalist John Pilger is worth quoting in full to illustrate this narrative:

> For three years British and American planners and engineers inspected the Chagos Group. Finally they selected the nearby island of Aldabra. Their secret destination leaked out to the scientists of the Royal Society in London who were horrified. Aldabra has a unique population of Giant Land Tortoises, nesting sea birds, and the last surviving flightless bird in the Indian Ocean: it is a treasure store of wildlife. Together with the Smithsonian Institution in Washington this formidable establishment [*sic*] body mounted a campaign that saw off the Ministry of Defence and Admiral Grantham. The Giant land tortoise and the last flightless bird were safe. The second choice however was not. This was Diego Garcia which, although rich in terrestrial marine life, was not unique enough to incite the indignation of naturalists.[162]

Articles in *Pacific Science* (1980) and *Science* (2006) attested to the success of the Society's campaign in halting plans for Aldabra, and an unpublished masters thesis on the depopulation of Diego Garcia (2009) carried a very similar message

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Office: Defence Department and successors [CO 968/870]: item 1, "Extracts from DP note 10/64", 06/03/1964. Evidence is widespread across archives viewed.

[161] Anon. (3rd November 2000): "The Chagos Islands: A sordid tale", *BBC News*.

[162] Pilger J. (2006): *Freedom Next Time* (UK: Bantam Press), 41-42.

to that of Pilger's book, whilst other less authoritative, but popular resources on the internet, such as *Wikipedia* serve as enduring expressions of this narrative.[163]

How did such a legacy emerge from the Aldabra affair, aside from the fact that it provided a sensationalist twist to the Diego Garcia story? We will see in the next section that Stoddart, the Society's expedition leader, knew back in 1967 that the decision to proceed with Aldabra was in fact taken against the Society's advice in July of that year.[164] Therefore, my analysis has suggested that this narrative did not come from the Society itself, as a celebration of its influence. Rather, and ironically, it was the Government that buttressed the Society's authoritative position throughout this episode; they had mobilised the status of the Society to form the basis of their 'red herring' strategy. This approach began on the eve of the MoD-BBC reconnaissance expedition in September 1966, when Lord Shackleton decided to turn the Society's interest in the expedition to his advantage. It continued in similar fashion through the second expedition, which was labelled as a 'Royal Society expedition', despite its combined purposes as a secret military as well as scientific voyage. Throughout the key period of public debate over Aldabra, the Government reinforced this strategy with their repeated claims that plans were being made in close consultation with the Society, which, as we have seen, was not the case.

In the years immediately following the Aldabra affair, further public statements served to strengthen this narrative in the public arena. During this period the government found it convenient to obscure the fact that military plans for Aldabra were merely dormant, by indirectly answering questions about the future policy on Aldabra with news of the Royal Society research station and the BIOT Administration's decision to classify it as a nature reserve.[165] Privately, defence

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[163] Mueller-Dombois D. (1992): "F. Raymond Fosberg: An Appreciation!" *Pacific Science* **46**, 107-110; Grant P. R. (1st February 1980): "Island Study", *Science* **207**, 519-520; Moumou M. (2009): "Assessing the Impact of Forced Displacement on Communities in Small Island States: The Case of the Chagossian Tragedy", Unpublished Masters thesis (Department of Social Anthropology, University of Tromsø; School of Global Studies, University of Gothenburg; School of Business and Social Sciences, Roehampton University), 22; http://www.underwater.org/mermaid/Seychelles/Aldabra/aldabra.html Last modified 5 July 2009; http://en.wikipedia.org/wiki/Aldabra; http://en.wikipedia.org/wiki/Depopulation_of_Diego_Garcia.

[164] SI Fosberg Box 2 'Correspondence – David R. Stoddart, September-December 1967': Stoddart to Sachet, 02/12/1967.

[165] TNA Foreign and Commonwealth Office: Atlantic and Indian Ocean Department [FCO 83/7] 'Policy of United Kingdom on Aldabra Island': item 4, 12/10/1971.

plans continued to take absolute precedence and the Royal Society had been told that there was no guarantee that the island would not be needed for defence purposes in the future.[166] In February 1968 the story "RS told no guarantee" leaked to the press, and the *Guardian* and the *Times* ran articles questioning the sincerity of the government's conservation sentiments.[167] This contradiction between public and private discourse, and its longevity, was illustrated further by an episode in the early 1970s.

'Islands for Science'

In early October 1971, under Ted Heath's Conservative Government, the FCO caught wind of an International Union for the Conservation of Nature (IUCN) convention called *Islands for Science*, which was aimed at short-listing islands in the Indian Ocean for special scientific status and preservation. Despite Aldabra having been declared a nature reserve by the BIOT administration, the FCO were concerned that the island might be a strong candidate, and resolved to monitor the situation closely, commenting that "defence and other interests would have to be very carefully considered before this Island could be nominated".[168]

The FCO attempted to swing their influence against the inclusion of Aldabra in the *Islands for Science* convention:

> We would like to put on record that any such proposal in the case of Aldabra would give rise to serious embarrassment to HMG and the US Government as this island has been reserved for the defence purposes of both governments under the 1966 Exchange of Notes […].[169]

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[166] TNA Air Ministry and Ministry of Defence [AIR 20/11804]: Blackett to Healey 05/12/1967; Healey to Blackett 07/12/1967, 08/12/1967.
[167] TNA Commonwealth Office and Foreign and Commonwealth Office [FCO 32/126]: "Future of Aldabra still uncertain" *The Times*, 20/02/1968.
[168] TNA Foreign and Commonwealth Office: Atlantic and Indian Ocean Department [FCO 83/7]: "Islands for Science: Note by the Department for Education and Science", undated (around 11/10/1971). See also "Ceylon Government Peace Zone Initiative", 11/10/1971; item 5, "IUCN Convention on Islands for Science", A.F. Knight (Atlantic and Indian Ocean Dept) to Wheeler (Science and Technology Dept), 11/10/1971.
[169] TNA Foreign and Commonwealth Office: Atlantic and Indian Ocean Department [FCO 83/7]: item 9, A.F. Knight (Pacific and Indian Ocean Dept) to M.G. Dougal (Science and Technology Department), 12/11/1971.

The following day in the House of Lords, Lord Brockway asked the Government what decision had been reached regarding the future of the Aldabra atoll. The response obscured dormant military plans by focusing attention on the Royal Society's research station and the classification of Aldabra as a nature reserve:

> My Lords, as my Rt Hon Friend the P M indicated last December, there has been no change in the decision announced in November 1967 not to proceed with a military installation on Aldabra. In July 1968 the Royal Society was granted permission – and, subsequently, financial help – to establish a research station there and the Island has been classed as a nature reserve by the [BIOT] Admin.[170]

This way of dealing with the controversy, which intentionally obscured the truth, produced an enduring narrative of the Aldabra affair which buttressed the idea that the Society's campaign was ultimately successful. Subsequently, the vast majority of accounts of the episode echo the government's standard response to questions about future policy on Aldabra. There are many examples of this. The examples given above in support of the existence of the narrative are only the only ones which went one step further and made the link between the conservation campaign and the abandonment of the scheme explicit.[171]

### 4.7.2 Narrative 2: science less important than politics

The second and much less visible narrative of the Aldabra affair is that the Royal Society was not in a position to have sufficient influence on policy, and that scientific advice was not sought early enough, or indeed valued by the Government. Subsequently, the episode has been used to support the argument that scientists should be more integral in the policy-making machinery of Government in order to have an earlier and more valued influence.

Stoddart began to piece together events immediately after the announcement that the Aldabra project had been shelved, developing an argument of the Society's

[170] TNA Foreign and Commonwealth Office: Atlantic and Indian Ocean Department [FCO 83/7]: item 4, 12/10/1971.
[171] A good example of this is: Beardsley, T. (1st December 1983): "Aldabra's New Status", *Nature* **306**, 419.

marginalisation in private to Sachet, Fosberg and William Warner (Director of International Activities at the Smithsonian), before making it in public on several occasions. Stoddart wrote to Warner that there seemed to be no doubt that the MoD would have built the base were it not for the economic crisis; their decision to do so was essentially written into the establishment of BIOT in 1965 and intervention by the scientific lobby in mid-1966 was too late. "So far as I can make out no scientific advice was sought or given before we intervened." Stoddart continued: "[…] there certainly seems to be a lack of sympathy for our views in Government circles which contrasts very strongly with the liaison you have established with the Department of Defense in Washington".[172]

Stoddart proffered this argument in a public arena on several occasions.[173] It appeared in *Biological Conservation* (1968) in an article entitled 'The Aldabra Affair', under the subheading "general lessons":

> In conservation terms, Aldabra is important not only in itself, but also as an example of what can happen if adequate channels of advice between Government and the scientific community do not exist, are not used, or are not used early enough. The first military expedition to Aldabra took place in 1962, the second in 1966. Scientists were only attached to the second of these parties, shortly before it left, at the request of the Royal Society. Yet before scientific advice had been given, the British Indian Ocean Territory was formed, in December 1965 [...] the decision to build it on Aldabra was effectively written into this constitutional decision.[174]

Tam Dalyell MP was also arguing for an integral role for scientists and scientific advice in government in the House of Commons debate on 25 October 1967, when he suggested that a Select Committee enquiry should be convened to review the Aldabra decision, taking advice from the CSA to the Cabinet Office (Zuckerman), the President of the Royal Society (Blackett), and some of the expedition

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[172] SI Fosberg Box 2 'Correspondence – David R. Stoddart, September-December 1967': Stoddart to Warner, copied to Fosberg, 17/12/1967. See also Stoddart to Sachet, 02/12/1967.
[173] For example, see: Stoddart D. R. (1968b): "Catastrophic human interference with coral atoll ecosystems", *Geography* **53**, 25-40; Stoddart (2001).
[174] Stoddart (1968a), 68.
This argument was also echoed in Beamish (1970), 204.

scientists.[175] The "Late Night Line-up" discussion similarly provided an arena in which to debate valid sources of expertise, when Merlyn Rees questioned the integrity of the Society's statements about Aldabra, and Dalyell challenged the impartiality of the Government's source of expertise. The exchange also revealed a discrepancy between the two politicians regarding the relative utility of an RAF pilot and a scientist in proffering advice about bird strike hazards.[176]

What the Aldabra affair highlighted about the relationship between science and government, between scientific advisers and politicians, was that there was no mechanism by which the scientific community were consulted when policies affected science, i.e. channels of communication between scientists and government followed a one-way path into the corridors of power.[177] With this in mind, John Walsh reporting for *Science* in August 1967, in my view, captured the crux of the controversy:

> The Aldabra issue has aroused scientists in Britain more than any recent attempt to preserve an ecosystem. The preservationists now are trying not only to save Aldabra, as the Galapagos were spared, but to drive home the point that there is no established mechanism by which the scientific community is consulted when such government decisions affecting science are made. So, as important as an Aldabra preserved is to science, even more is at stake than whether the atoll in the 1970s is to be the home of the flightless rail or the F-111.[178]

## 4.8 The wider picture: the technocratic ideal – a familiar argument?

Stoddart's and Dalyell's comments were rehearsals of a classic argument about the role of science and scientists in the state, an argument that was pursued at length in Dalyell's *Science Policy for Britain* in 1983. Here Dalyell argued that scientists

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[175] Hansard HC Debate 25th October 1967: "Island of Aldabra (Staging Post)", vol. 751, 1830-1831.

[176] BBC2 Television "Late Night Line-Up" 6th November 1967, pp 9-10, 12. Copy of transcript in TNA Air Ministry and Ministry of Defence [AIR 20/11804].

[177] Dalyell (1983), 38.
Dalyell alludes to this one-way flow of information in his (1983) book when he comments that government can be a bottomless pit into which scientific advice is poured, but there is no method of feedback.

[178] Walsh (18th August 1967), 790.

should be more integral to the machinery of the state. This is essential because scientists need to be able to influence policy-making earlier, for example, on Cabinet committees when Green Papers are discussed, otherwise "they may as well renounce any attempt to influence the course of events". Furthermore, scientific advice should be taken more seriously in government and the scientific awareness of higher civil servants should be improved so that scientific advice is valued and therefore sought.[179]

Whilst Dalyell's examples and knowledge are drawn from earlier Labour governments as well, about which he was perhaps more informed, his book must be considered in the context of 1983 with respect to the Thatcher Government's funding cuts in science and technology, and their attempt to reduce the influence of quangos (quasi non-governmental organisations). Indeed, such arguments about the role of science in the state cannot be considered separately from political ideologies.

David Edgerton for instance, argues that key figures on the Left such as C.P. Snow and Blackett mobilised 'declinist' arguments about Britain's economy in order to argue for a greater role for science and technology, and scientific expertise in the state.[180] Dalyell's book is one such expression of a declinist argument, highlighting the relative economic superiority of countries that embrace a greater role for science and scientists in the state.

The vehemence with which the Aldabra affair was fought, principally by Blackett and Dalyell, may have been symptomatic of a larger ambition, i.e. the Aldabra affair may have served as one of many by-proxy battlegrounds for technocratic ideals in this period.[181] A comment by Stoddart in a letter to Fosberg, sent during the Aldabra affair, lends credence to this possibility:

> I have found out that the reason they are going at it so hard is that Blackett the PRS decided that this was as good a case as they would

[179] Dalyell, T. (1983): *Science Policy for Britain* (London: Longman), 20-21, 27, 38.
[180] Edgerton D. (2006): *Warfare State: Britain, 1920-1970* (U.K.: Cambridge University Press).
[181] Stoddart has claimed that "Politically and scientifically, Mr. Dalyell and Lord Blackett made all the difference". Stoddart (2001), 250

ever have and made it into a test case to see how much influence science did have on government.[182]

## 4.9 Conclusion

A special relationship?

This chapter has explored the position of the Royal Society in the British state through a re-interpretation of the Aldabra affair in the mid-late 1960s. In doing so, it examines two 'special relationships': between the British and American governments, and between the Royal Society and the British government.[183]

Whilst other chapters, especially chapter 3, have drawn attention to the existence and nature of the special relationship between the Society and the government, this analysis of the Aldabra affair shows us that there were limitations. I have shown that, when the Society's advice and involvement was inconvenient, it was actively undermined and marginalised, drawing attention to the lack of an effective mechanism by which scientists were consulted when government matters affected science. Most significantly, I have shown how the Society via Blackett utilised the Aldabra affair as a by proxy battleground on which to argue for the greater appreciation of scientific advice in government.

With regards to the Anglo-American special relationship, this episode potentially provides a caveat to the idea of an all-encompassing American hegemony in this period. The Aldabra affair has been presented at times as evidence of the British being helplessly tied into an arrangement enforced by the Americans. For instance, Dalyell's retrospective account published in 2011 stresses the power of President Johnson over Harold Wilson.[184] In contrast, the account presented here, drawing together many different, complementary sources, presents strong evidence to the

[182] SI Fosberg Box 2 'Correspondence – David R. Stoddart, September-December 1967': Stoddart to Fosberg, 30/09/1967.
[183] The special relationship between the Government and the Royal Society was described as such in an OECD study of its member countries' scientific infrastructure: "[The Royal Society has a] special relationship with Government which provides its accommodation and makes grants for research activities administered by it. Many of its Fellows serve as members of various Government advisory bodies." RS Thompson [HWT 36] 'Council for Scientific Policy' Folder C.77: "Organisation and expenditure of scientific research in Western Europe" by Organisation for Economic Co-operation and Development (OECD).
[184] Dalyell (2011), 130.

effect that the PM, the MoD and the RAF held firm against the American plea to re-locate the airfield.

At a non-governmental level, the Anglo-American relationship was very strong and influential during the controversy, although there is a danger of generalising this observation, as much of the co-operation took place between a relatively small number of people. This co-operation would not have been as successful, however, were it not for a pre-existing culture of collaboration between British and American Parliamentarians and scientists.

Remembering Aldabra

This chapter has examined how different actors wanted the controversy to be remembered. In doing so, it has outlined two narratives of the Aldabra affair that emerged in its wake: one that still persists in the public domain and is largely incorrect, and another that represents a more accurate account, yet is largely forgotten.

Narrative 1 - "Islanders less important than tortoises" – has presented the scientific campaign as being ultimately successful in bringing about the cancellation of the airfield. The chapter has shown how this narrative was constructed and encouraged by various government spokespersons during and after the controversy.

The government's public discourse about Aldabra from 1968 onwards utilised a red herring strategy very similar to that which was explicitly acknowledged by Lord Shackleton in mid-1966: it diverted attention from military to scientific plans. That a legacy emerged which saw the Society's campaign as successful in thwarting plans for Aldabra, despite (at least) Stoddart's awareness of the DOPC decision to proceed, is, I believe, testament to the success of this strategy.

This dominant account of the controversy has been perpetuated by secondary commentators and is still quite visible in today's media. The counter-narrative, science less important than politics, was mobilised by those who felt they knew the truth about the Aldabra affair, primarily Stoddart and Dalyell. Its propagation was therefore a tool of exposure and potentially a tool of change. Stoddart used the counter-narrative to argue that scientists should play a more integral role in the policy-making machinery of government, and that channels of advice between

government and scientists were not being sufficiently utilised, to the detriment of science.

Dalyell allied himself with the scientific lobby, and, whilst he appeared genuinely committed to the preservation of Aldabra, his comments in public debates were, in part, rehearsals of a familiar argument about the role of science and scientists in the state. Indeed, debates over the Aldabra affair became forums in which to rehearse arguments about the place of scientists in the state, arguments which carried political leanings of a technocratic ideal. Aldabra meant many things to many commentators, and the chapter has drawn out the competing agendas of different Government Departments, Parliamentarians and scientists.

Can the two narratives be reconciled? They are perhaps not as incompatible as they first appear, because elements of the Society's campaign could certainly be considered successful and influential. The Society utilised novel public channels to bring pressure to bear on both British and American Governments when they realised they could not wield sufficient influence as a sole institution. This pressure certainly helped to put scientific concerns high on the public agenda, and was sufficient to cause significant concern within Government departments. Ultimately though, what the Aldabra affair really highlighted was that the Society's influence was undermined and marginalised by members of the NERC, the Conservancy, and the Defence Ministries. It highlights that, whilst the Society's expertise and advice can be sought and utilised at very high levels in central government, such as it was during World War II, it can quite easily be marginalised when the Society takes a stance that challenges a Government's preferred course of action.[185]

An interesting irony remains, that the Government, particularly its MoD, mobilised the status and influence of the Royal Society whilst continually questioning its expertise and abhorring its wrath behind closed doors. This is perhaps the new legacy of the Aldabra affair: one that simultaneously highlights the Society's emblematic power as one of the oldest and most prestigious learned

[185] McGucken W. (1984): *Scientists, Society, and State: The Social Relations of Science Movement in Great Britain 1931-1947* (Columbus: Ohio State University Press), 206-7.

societies of its kind, and yet its powerlessness as an institution when its ambitions collide unfavourably with political priorities.

# CHAPTER 5

## Détente and dissidents, 1966-76



### 5.1 Introduction: the paradox of the détente era

Whilst the USA and the USSR worked towards easing of Cold War tensions, marked principally by a succession of negotiations and agreements regarding nuclear arms reduction and foreign policy relations, the issue of human rights in Eastern Europe came to the fore and remained a prominent obstacle to maintaining a positive dialogue between the East and West. Indeed, Moscow's moves for liberalising international trade, technology and science actually led to tighter ideological controls *within* the country and in the Satellite States, resulting in what Stephen Ashton terms one of the great paradoxes of the détente era. Meanwhile, human rights activism was increasing, with the Helsinki Final Act in 1975 institutionalising a forum in which to pass judgement on such matters.[1]

John Ziman FRS had published in *Nature* in January 1968 a "Letter to an Imaginary Soviet Scientist", addressed to a fictional Academician of the Soviet Academy of Sciences. Ziman sought to depict the incompatibility of scientific culture and Soviet culture, highlighting for example the frustration caused by

[1] Ashton S. R. (1989): *In Search of Détente: The Politics of East-West Relations Since 1945* (China: Macmillan Education Ltd), 128-130.

Soviet scientists being unable to reply to letters from international scientists, and to attend international conferences. He argued that these courtesies "would be those normal between independent individuals". Ziman's fundamental point was that Soviet scientists were unable to participate in the 'normal' operations of international science because the state had an oppressive hold over their actions.[2]

A Soviet broadcast dismissed the article as "low grade propaganda", and claimed that scientists themselves were able to make decisions about whether to travel abroad to conferences.[3] In addition, a real Academician responded to Ziman's hypothetical letter. He attested to the many fruitful contacts made between British and Soviet scientists in recent years and accused Ziman of "deliberately [singling] out rare and regrettable events, [raising] them to the level of general rules". Although Ziman had acted as an individual, the respondent, W.A. Engelhardt, took more of an institutional approach:

> […] we cannot even imagine our journal [*Priroda*, the namesake of *Nature*] carrying an article which would ridicule and present in an unfavourable light the Royal Society or its fellows.[4]

Engelhardt concluded by expressing his hope that 1968 would feature many more Soviet scientists participating in British science forums. However, it was not to be a good year for relations between the Academy and the Royal Society.

## 5.2 The Prague Spring

Engelhardt had pointed towards successful scientific exchanges between the Academy and the Society which had been enabled by the cultural agreement drawn up between their respective governments. This arrangement had been running fairly smoothly since 1959 without interruption.[5] However, when the

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[2] Ziman (1968): "Letter to an Imaginary Soviet Scientist", *Nature* **217**, 123-4.
[3] RS Thompson [HWT 34] 'Anglo-Soviet Consultative Committee on Bilateral Relations (Kosygin Committee), 1967-71' Folder C.7: Soviet broadcast from Moscow, "British Soviet Scientific Co-operation: Rejoinder to 'Nature'" from the series "Let's talk it Over", broadcast 21:00 GMT, 01/06/1968 for Great Britain and Ireland. Forwarded along with Ziman's article to Harold Thompson from S. George West, Controller of the European Division at the British Council, for his "information and amusement", 09/07/1968.
[4] Engelhardt (1968): "Letter to an Imaginary Soviet Scientist", *Nature* **218**, 404.
[5] RS Thompson [HWT 34] Folder C.2: 'Anglo-Soviet Contacts', a paper sent to Thompson from David Beattie, Foreign Office, approx Jan 1968, p1.

cultural agreement was due for renewal in early 1969, unexpected difficulties were raised about the scientific exchange agreement by the Soviet Academy. The Society's Foreign Secretary, Sir Harold Thompson, confided in his fellow Officers that relations between the Society and the Academy had become strained and that the Soviet invasion of Czechoslovakia was partly to blame.[6]

Thompson had, since October 1967, held a position in the Anglo-Soviet Consultative Committee on Bilateral Relations, also known as the Kosygin Committee, named after A.N. Kosygin, Premier of the Soviet Union. It was an inter-governmental initiative, suggested by the British, to advise both governments confidentially on ways in which bilateral relations could be improved.[7] Thompson sat on this Committee in an individual capacity, though he commented later that the invitation to join was an "obvious" result of his official position as Foreign Secretary of the Society, and that his views were taken as an expression of the Society's view.[8]

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Relations between the Academy and the Society were previously broken at the height of the Lysenko affair in 1948, as mentioned in Chapter 1, and re-established around the same time that the Soviet Union acquired the Hydrogen bomb in 1955. Rowlinson J. S. (1992): "The Development of the Society, 1940-1989", in Rowlinson J. S., Robinson, N. H. (eds) *The record of the Royal Society of London: supplement to the fourth edition for the years 1940-1989* (Great Britain: Royal Society), 8.

[6] RS Thompson [HWT 33] 'H W Thompson's personal correspondence as Foreign Secretary, 1965-71' Folder B.527: Thompson to Officers, 06/01/1970, pp1-2; [HWT 34] Folder C.9: Thompson to Trevelyan, 19/05/1969.

[7] RS Thompson [HWT 34] Folder C.1: George Brown, Foreign Secretary to Thompson, 19/10/1967; Thompson to George Brown, 23/10/1967; "Terms of reference of the United Kingdom/ Soviet consultative committee on questions relating to the development of bilateral relations"; "British Group in the Anglo-Soviet Consultative Committee". See also Folder C.3: Trevelyan to Thompson, 12/03/1968. There were ten members in each party. The British contingent were all appointed by the Foreign Secretary. It was known as the Kosygin Committee because the suggestion to establish the committee was accepted by the Russians during A. N. Kosygin's visit to London in February 1967. RS Thompson [HWT 34]: Catalogue background information.

Alexei Nikolayevich Kosygin was Premier of the Soviet Union (a position also known as Chairman of the Council of Ministers), Oct 1964 – Oct 1980.

[8] RS Thompson [HWT 33] Folder B.527: Thompson to Officers, 06/01/1970, pp4-5.

On this committee, Thompson also represented sport, reflecting his role as Vice-Chairman of the Football Association (1967–76), Vice-President (1969–80), and Chairman (1976–81). Richards R. "Thompson, Sir Harold Warris (1908–1983), physical chemist", *Oxford Dictionary of National Biography*.

The other members of the British party were Sir Humphrey Trevelyan (Chairman and formerly H.M. Ambassador to the Soviet Union, 1962-65), Lady Baird (National Governor of the BBC in Scotland), Benjamin Britten (composer and musician), Dr Alan Bullock (Master of St Catherine's College, Oxford), Professor W.J.H. Butterfield (Professor of Medicine, Guy's Hospital), Lord Goodman (Chairman of the Arts Council of Great Britain), Mr F. Hayday (Chairman of the International Committee of the Trades Union Congress), Lord Hunt (Leader of the British Everest Expedition and Chairman of the Parole Board), Mr H.R. Mathys (Member of the Confederation of

The Committee had an uneasy start, with some British members expressing doubts over their willingness to continue on the Committee due to Soviet oppression of artists and others within the Eastern Bloc.[9] The Soviet party had accepted an invitation to visit Britain in October 1968, but this was withdrawn after their invasion of Czechoslovakia in August 1968.[10]

The Warsaw Pact invasion had been triggered by the liberalisation movement building up in Czechoslovakia, which became known as the Prague Spring. This Spring began with the election of the reformist leader Alexander Dubcek in January 1968 and ended with the Soviet invasion in August. At the height of the reforms Ludvik Vaculik wrote *The Two Thousand Words* manifesto which became a symbol of the Prague Spring. It called for people to support the progressive wing of the Communist Party, in order to remove unchecked power and induce a democratic revival.[11] The Soviet Union feared that the liberalisation movement, especially the ending of Soviet censorship, would spread to neighbouring states. They also feared that citizens of the Eastern Bloc would be able to defect to the West via Austria, and that Czechoslovakia would be lost as a military base.[12]

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British Industries and Deputy Chairman of Courtauld's Ltd), Sir Eric Roll (Merchant Banker and former Permanent Under-Secretary of the Department for Economic Affairs). RS Thompson [HWT 34] Folder C.2: Sir Humphrey Trevelyan (FO) to Thompson, 08/01/1968. It was hoped that the Soviets would appoint members of a similar kind ie prominent intellectuals. Folder C.3: "Anglo-Soviet Consultative Committee: British Group" Minutes of the second meeting held on 13 Feb 1968, p2. However, the Soviet group turned out to have "more of an official slant" than Trevelyan would have liked - mostly senior members of Ministries and State Committees. Folder C.4: Trevelyan to Thompson, 19/04/1968. See also Folder C.5: "Anglo-Soviet Consultative Committee: Soviet Group – Personalities. Background brief by the Foreign Office".

[9] RS Thompson [HWT 33] Folder B.527: Thompson to Officers, 06/01/1970, p4.

[10] RS Thompson [HWT 34] Folder C.7: Beattie (Secretary of the Committee, Northern Department, FO) to Thompson, 26/07/1968; Folder C.8: Trevelyan to Thompson, 29/08/1968; Trevelyan to Mr Kozyrev, Deputy Minister of Foreign Affairs of the USSR, 29/08/1968. See also Folder C.8: Trevelyan to Thompson, 07/10/1968; Kozyrev to Trevelyan, 01/10/1968. Here Kozyrev describes it as an "unwarranted step".
In addition, Lord Hunt resigned from the Committee upon the Soviet/ Warsaw Pact invasion of Czechoslovakia. RS Thompson [HWT 34]: Folder C.8: Lord Hunt to Trevelyan, copied to Beattie and Thompson, 21/08/1968.

[11] Vaculik L. (27 June 1968): "Two Thousand Words to Workers, Farmers, Scientists, Artists, and Everyone" in Stokes G. (ed) (1991): *From Stalinism to Pluralism: A Documentary History of Eastern Europe since 1945* (USA: Oxford University Press), 126-130.

[12] Hauner M. (1989): "The Prague Spring – Twenty Years After", in Stone N., Strouhal E. (eds) *Czechoslovakia: Crossroads and Crises, 1918-1988* (Hong Kong: The Macmillan Press Ltd), 207-230; Steele J., Abraham E. (1983): *Andropov in Power: From Komsomol to Kremlin* (Oxford: Martin Robertson), 113-121.

Soon after the invasion Thompson met the Soviet Ambassador at a social function and expressed to him the concern of British scientists over what they perceived to be Soviet state interference with "legitimate international scientific affairs" in Czechoslovakia.[13] On 27 August, the President of the Royal Society, Patrick Blackett, received a letter from a member of the Council, Dr. P.E. Kent, in which he claimed that it was the general feeling at the 23rd International Geological Congress, held in Prague that month, that the Royal Society should send a strong letter of protest to the Soviet Academy, expressing reluctance to continue scientific exchanges.[14]

On 23 September 1968, according to Thompson, at the first opportunity since the invasion, the Officers met to discuss the suggestions of Kent and other Fellows that the Society should break off relations with the Soviet Academy and make a public statement of disapproval about the invasion. The Officers decided unanimously against taking such public action on the grounds that it was preferable to maintain a distinct line between scientific and political issues. A better response, they decided, would be for individual scientists to express their disapproval privately to their Soviet colleagues.[15]

At the next meeting of Council in October, Kent's letter was on the agenda for consideration. There were "wide divisions" of opinion within the Council. Most members thought it was important to maintain the distinction between science and politics, although Professor Stanley Westoll acknowledged that it was difficult to draw a distinction between Soviet scientists and politicians at high levels. Professor Albert Neuberger, who had fled Germany in 1933, urged the Council to think long-term and continue the exchanges, whilst Professor Noël Paton expressed "revulsion" at the prospect of relations continuing unchanged.[16]

The final decision taken by Council matched that of the Officers' initial resolution: to encourage Fellows to take action as individuals, believing that it was more effective to continue institutional contact with their Soviet counterparts and to

[13] RS Thompson [HWT 33] Folder B.527: Thompson to Officers, 06/01/1970, p1.
[14] RS Council Minutes vol 23 (1967-70) 10/10/1968 pp230-231 minute 35.
[15] RS Council Minutes vol 23 (1967-70) 10/10/1968 pp230-231 minute 35.
[16] RS Council Minutes vol 23 (1967-70) 10/10/1968 pp230-232 minute 35.

keep out of "political issues".[17] Nevertheless, the major outcome of the meeting was to increase scientific exchanges with Czechoslovakia and provide assistance to Czechoslovak refugee scientists. This had the potential to be seen as an overt political move, so Council resolved that it should be done in an "unostentatious" manner.[18]

In his official position as Foreign Secretary, Thompson extended fraternal assistance to the Czechoslovak Academy of Sciences by promoting additional exchanges "as an indication of our friendship" and visiting in person in February 1969 to find out how the Society could best assist their Czechoslovak colleagues.[19] However, as Thompson wrote to his fellow Officers, he had begun to feel that there were signs of Soviet oppression within the Czech Academy itself. Upon invasion, the premises of the Czech Academy had been taken over by the army during a session of the Assembly of the International Union of Geology. Many internal re-organisations had since taken place, and Thompson felt that there had been an attempt to "play up the differences between Czechs and Slovaks for Soviet political advantage".[20]

Professor František Sorm, the President of the Czech Academy, expressed his fears that more trouble lay ahead during a private visit to the Royal Society in July 1969. A few months later he was removed from the Presidency and lost his place on the Czechoslovak Central Committee. According to a letter forwarded to Thompson from Prague, Sorm was summoned before a commission set up by the district committee of the Communist Party and questioned at length. The same letter reported that the situation in the universities was much worse; they were being cleansed of scholars who refused to renounce "non-Marxist" decisions taken during the Prague Spring.[21]

In October 1969 a petition appeared in *Nature*, signed by seven Nobel Laureates (four Fellows and three Foreign Members of the Royal Society), suggesting a set

[17] RS Thompson [HWT 33] Folder B.527: Thompson to Officers, 06/01/1970, pp1-2.
[18] RS Council Minutes vol 23 (1967-70) 10/10/1968 pp230-232 minute 35.
[19] RS Thompson [HWT 33] Folder B.526: Thompson to Mr. Post, Iron and Steel Institute, 05/08/1969; Folder B.527: Thompson to Officers 06/01/1970, p1.
[20] RS Thompson [HWT 33] Folder B.527: Thompson to Officers, 06/01/1970, pp1-2.
[21] RS Thompson [HWT 33] Folder B.526: Alexander Kasal, Prague, to 'Professor Jones' (forwarded to Thompson), approx late Dec 1969/ early Jan 1970; Folder B.527: Thompson to Officers, 06/01/1970, p2.

of principles to guide scientists in how to act in the international sphere.[22] The article posed the question of whether a scientist should attend a conference sponsored by a government that restricted academic freedom, lest it be taken as tacit approval of that government. The solution, they suggested, was that "invitations sponsored or honours bestowed by a government responsible for any sort of restriction on the freedom of science and scientists should be declined". In the long run, they concluded, these principles were likely to "serve not only the development of science but also the wider cause of civil liberties and human rights".[23]

The petition raised concern amongst dissident scientists in the Eastern Bloc who feared Soviet repercussions. In December that year, Thompson received a message from Czechoslovak Academician and dissident, Otto Wichterle, written on his behalf and delivered via the Foreign and Commonwealth Office (FCO). Wichterle, a signatory of *The Two Thousand Words* manifesto, had been deprived of his parliamentary seat and the right to leave Czechoslovakia. The letter warned Thompson that if he responded to events in any way he could do more harm than good by raising suspicion that Wichterle was canvassing his friends abroad to intervene on his behalf.[24]

Very shortly after, Wichterle was removed from his post as Director of the Academy's Institute of Macromolecular Chemistry, and, along with his colleague Professor Zdenek Servit, expelled from the Czechoslovak Academy of Sciences because he refused to recant his signature of the *Manifesto*.[25] A note subsequently appeared in *Nature*, encouraging delegates to boycott certain upcoming

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[22] Crick F. et al (1969): "International Conferences", *Nature* **224**, 93-94. The signatories were Francis Crick, John Kendrew, Max Perutz, Frederick Sanger, Jacques Monod, Francois Jacob, and Andre Lwoff.

[23] Crick et al (1969), 93-94.

[24] RS Thompson [HWT 33] Folder B.527: David Hughes, Prague c/o FCO to Thompson, 22/12/1969.

[25] RS Thompson [HWT 33] Folder B.526: Alexander Kasal, Prague, to 'Professor Jones' (forwarded to Thompson), approx late Dec 1969/ early Jan 1970; Folder B.527: David Hughes, Prague c/o FCO to Thompson, 22/12/1969; Anon. (1970): "Miscellaneous Intelligence", *Nature* **225**, 120.
Other cases were also raised in *Nature*, including that of Academician Ivan Malek, an active supporter of Alexander Dubcek who was dismissed from his positions as Director of the Institute of Microbiology in Prague, and Vice-President of the Czechoslovak Academy, following the Soviet invasion. Janouch F. (1974): "Professor F. Janouch, of the Niels Bohr Institute, Copenhagen, writes on the plight of the Czechoslovakian academic", *Nature* **251**, 181; Burhop E. (1974c): "Protests", *Nature* **252**, 187.

conferences held in Czechoslovakia on the grounds that their original host, Wichterle, would no longer be present. This prompted Wichterle to write to Thompson again to say that the petition in *Nature* was touching, but unhelpful. He suggested that boycotting the conference would only help the offending government and disadvantage persecuted scientists in that country.[26]

In December 1969, Professor Jaroslav Pluhar, the Foreign Secretary of the Czechoslovak Academy, visited the Society privately during a research trip to Britain. Thompson was convinced that this was in fact the main purpose of his trip, so that he could explain to Society members the worsening situation in the Czechoslovak Academy. Thompson told Pluhar that he may regrettably withdraw the scientific exchanges with the Academy, if they were to become "non-scientific" as a result of the political take-over.[27]

In June 1971, John Humphrey of the National Institute for Medical Research, wrote to Thompson, informing him of further reports from within the Czech Academy that "the Academy is reorganising its forces" along Soviet political lines. All scientific staff had been demoted by one position, and membership of the Communist Party had become a prerequisite for holding any high office. Every member of staff had been offered membership of the Czech Soviet Friendship Society as a way of proving their support of the existing regime and therefore suitability to continue in their post. In response, Thompson admitted that he was finding it very difficult to decide how to proceed, and was "giving much thought to the question of whether we should adopt a stronger attitude".[28]

However, Thompson's actions in the subsequent months strongly prioritised continued relations with the Soviet Academy over taking public action on the treatment of dissident scientists in the Eastern Bloc. Exchanges continued with the USSR Academy and other East European Academies, though an open invitation

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[26] RS Thompson [HWT 33] Folder B.526: Otto Wichterle, Prague, to Thompson, approx Jan 1970; Crick F. et al (1969): "International Conferences", *Nature* **224**, 93-94; Anon. (1970): "Miscellaneous Intelligence", *Nature* **225**, 120.
[27] RS Thompson [HWT 33] Folder B.527: Thompson to Officers, 06/01/1970, pp2-3.
[28] RS Thompson [HWT 33] Folder B.531: John H Humphrey to Thompson, 22/06/1971; There was also an Anti Jewish sentiment settling in the Czech Academy, as the Jewish were not known for their membership of the Communist Party: Thompson to Humphrey, 30/06/1971.

for representatives of the Soviet Academy to visit the Royal Society, something that had not occurred since 1964, went unanswered.[29]

Thompson's emphasis on continuing relations with the Soviets, however fraught, in part reflected his earlier stance on the matter: that it was more effective to continue institutional contact and keep out of political issues. However, it may also have been shaped by the priorities and guidance of his close associates in the FCO. Thompson was in regular contact with Sir Thomas Brimelow, Permanent Secretary in the FCO, Head of the Diplomatic Service, and leading Soviet specialist. Thompson met Brimelow in several different arenas, both formal and informal, including the Society's informal Science Advisory Group to the FCO (see chapter 3). A recurring issue in their exchanges was the strain that Soviet bureaucracy was putting upon the Society's scientific exchange programme. In July 1971, Thompson also expressed these grievances to his counterpart in the Soviet Academy of Sciences, General S.G. Korneev, Chief of the Directorate of Foreign Relations, and a member of the Committee for State Security (KGB).[30] Brimelow commented on Korneev's response, saying that it was "conciliatory by Soviet standards", thus confirming "our impression that the Russians attach considerable importance to the maintenance of good relations with the RS and scientific exchanges with the UK".[31]

The preoccupation with Soviet rather than Czechoslovak relations was symbolic of the Society's ties to state priorities, and reminiscent of the Society's response to the problems with the Chinese Academy during the Cultural Revolution, and the subsequent prioritisation of relations with Mainland China over Taiwan (see chapter 3). The tone and content of the correspondence between Brimelow and Thompson, particularly the reference to "our impression", indicating that it was a

[29] RS Council Minutes vol 24 (1970-73) 17/05/1973 p715 minute 30; 12/07/1973 p764 minute 20; 11/10/1973 p809 minute 18.
[30] Pockley P. (1974): "First Australian-Soviet science agreement", *Nature* **248**, 275; Levich, Y. (1976): "Trying to keep in touch", *Nature* **263,** 366-367. This article, about the difficulty of maintaining professional contact and relations with Soviet scientists, complained that the central KGB had the last say in who was allowed to travel abroad. It claimed there was a secret section known as the "first section" in every scientific institute which was connected to the KGB.
[31] RS Council Minutes vol 24 (1970-73) 14/10/1971 p214 minute 31; RS Thompson [HWT 33] Folder B.531: Brimelow to Thompson, 19/07/1971; Thompson to Brimelow, undated; Folder B.533: Brimelow to Thompson, 30/09/1971.

more frequent discussion ground, belies a close personal association which may have influenced Thompson's decision.

### 5.3 Soviet political psychiatry and human rights activism

The events of the summer of 1968 added fuel to the human rights movement building within the Soviet Union. This movement was associated with the Action Group for the Defence of Human Rights and focused on human rights violations against dissenters, including the victims of Soviet political psychiatry.[32] In 1969, Soviet Academician Zhores Medvedev published in the West *The Rise and Fall of T. D. Lysenko*, which dismissed Lysenkoism as a pseudo-science and exposed how deep-rooted it had become, and would continue to be, across a wide sector of Soviet agriculture and biology.[33] Medvedev's account was in some ways quite complimentary of the progress made towards academic freedom in the Soviet Union, especially since the ending of the Lysenkoist monopoly of biology. However, in highlighting how Lysenkoism became and remained entrenched, Medvedev painted a picture of a country stifled by nepotism, censorship, political orthodoxy, and isolation from the world scientific community. In essence, a country with a politico-economic system that was incompatible with scientific freedom: [34]

[32] Bloch S., Reddaway P. (1984): *Soviet Psychiatric Abuse: The Shadow over World Psychiatry* (London: Victor Gollancz Ltd), 21; See for example, the bulletin of the Action Group for the Defence of Human Rights - *Chronicle of Current Events*, Issue 17 (April 1971): "News in Brief", pp75, 77, and other issues. Available via Amnesty International: http://www.amnesty.org/en/ai_search?page=2&title=chronicle%20of%20current%20events

[33] The USSR refused to publish the manuscript. Medvedev Z.A. (1969): *The Rise and Fall of T. D. Lysenko* (New York: Columbia University Press), vii.

[34] Medvedev (1969), especially pp240-253; Lysenko had been dismissed from his post as the Director of the AS Institute of Genetics in 1965, following the decline of the monopoly of Lysenkoist/ Michurinist biology, a process that had occurred gradually, albeit with some major setbacks, since 1953. However, Lysenko and his supporters continued to hold important scientific posts across the country, and, Medvedev claimed, were unwilling to relinquish the dogma or their posts, and so provided each other with a mutual support network. Due to the prevalence of Lysenkoist biology in secondary and higher education in the years 1948-60, many academics had built a career upon those ideas and were reluctant to accept that it was all invalid. Medvedev (1969), especially pp240-241.

> Monopoly in science by one or another false doctrine, or even by one scientific trend, is an external symptom of some deep-seated sickness of a society.[35]

The following year, in May 1970, Medvedev was visited at his apartment in Obninsk by a party of psychiatrists and police and questioned about his writings on the Lysenko controversy.[36] Refusing to submit himself for psychiatric testing, Medvedev was forcibly taken from his apartment and committed to a psychiatric hospital with a diagnosis of schizophrenia. The following two months witnessed intense pressure from the worldwide intellectual and scientific community on the Soviet government to release Medvedev.[37]

In May 1967 Yuri Andropov had become Chairman of the KGB. Due to the reduction in political arrests and trials during his tenure, Andropov was viewed by some Western observers as a moderate. However, Andropov's profile was due partly to his desire to project a positive image abroad in the context of détente, and partly to a more underhand and less visible approach to dealing with dissent.[38] Indeed, Andropov had overseen the KGB's covert activities to stifle the Prague Spring.[39] The idea of using psychiatric hospitals to detain political dissidents was already in place before Andropov, but under his reign the practice increased dramatically and the number of institutions reportedly extended significantly.[40] He also made more use of forced emigration. Both strategies avoided putting dissidents on public trial.[41] He developed new techniques to pressurise dissidents short of arrest, such as drafting them into the army, blocking university entrance, and forcing new graduates to take jobs in remote and undesirable parts of the

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[35] Medvedev (1969), 246.
[36] Obninsk is a city South-West of Moscow.
[37] Medvedev R.A., Medvedev Z.A. (1971): *A Question of Madness* (London: Macmillan), 30-37, 61.
[38] Steele, Abraham (1983), 102-104.
[39] Steele, Abraham (1983), 114.
[40] Smith T.C. (1996): *No Asylum: State Psychiatric Repression in the Former USSR* (GB: MacMillan Press Ltd), 3; Bloch, Reddaway (1984), 187-188; Steele, Abraham (1983), 93-94; Beichman A., Bernstam M.S. (1983): *Andropov: New Challenge to the West* (New York: Stein and Day), 182-183.
For an account of the fallout in the international psychiatric community, a battle which culminated in the resignation of the Soviet Psychiatric Society from the World Psychiatric Association in 1983, see Bloch, Reddaway (1984), 9-11.
[41] Steele, Abraham (1983), 93-94.

country.[42] According to Medvedev, the KGB under Andropov became quite adept at securing convictions of slander by planting false material. These activities had the desired effect of making it very difficult for organisations abroad to ascertain the facts necessary to intervene or pass judgement.[43]

Following Medvedev's incarceration in the psychiatric hospital, John C. Kendrew FRS began organising an appeal for his release on behalf of the Nobel Laureates of Western Europe (see Appendix A). His initial plan was that it would take the form of a letter to the press, including scientific journals, specifically *Nature*, as it was widely read in the Soviet Union.[44] However, many of the responses he received expressed reservations about the public nature of the appeal, suggesting instead that it be sent privately, at least at first, to Soviet colleagues and the Soviet Academy of Sciences.[45] Others, notably William Lawrence Bragg FRS, were concerned about the political tone of the appeal, suggesting instead a purely scientific statement:

> However strong their individual feelings, Nobel Laureates have no right as a body to deal with political questions. If a letter is sent it should only deal with points on which the Laureates, as Laureates, are qualified to speak, such as their admiration of Medvedev's work, their affection for him as a colleague, and their strong feeling that his work

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[42] Steele, Abraham (1983), 94; Medvedev Z.A. (1983): *Andropov* (Oxford: Basil Blackwell), 61-64, 76-81.

[43] Medvedev (1983), 77-78.
Andropov later succeeded Brezhnev as the leader of the Soviet Union (General Secretary of the CPSU (Nov 1982 – Feb 1984) and Chairman of the Presidium of the Supreme Soviet of the Soviet Union (Jun 1983 – Feb 1984)).

[44] OX Kendrew [MS.Eng.c.2606/0.18] 'Re: Medvedev Z.A., 1970': Kendrew to Nobel Laureates of Western Europe (template), 05/06/1970.
In 1962, **John Kendrew** (FRS 1960) took up the post of Deputy Scientific Advisor to the Ministry of Defence, under Solly Zuckerman FRS and later became Chairman of the Defence Scientific Advisory Council. During the 1960s he was also instrumental in establishing the European Molecular Biology Organisation (EMBO) and founded the *Journal of Molecular Biology*. From 1974 onwards, he played a succession of important roles in the International Council for Scientific Unions (ICSU), being its longest serving officer. In 1978, as President of ICSU, he mediated between Mainland China and Taiwan over recognition in ICSU. He has been described by colleagues as shy, secular and rational. Holmes K. C. (2001): "Sir John Cowdery Kendrew. 24 March 1917-23 August 1997", *Biographical Memoirs of Fellows of the Royal Society* **47**, 321, 324-326, 329, 331.

[45] OX Kendrew [MS.Eng.c.2606/0.18]: See for example, George Porter to Kendrew, 12/06/1970; Hans Krebs to Kendrew, 13/06/1970; James Chadwick to Kendrew, 12/06/1970; Alan Hodgkin to Kendrew, 13/06/1970.

> should be encouraged in every way [...]. I feel all criticism of the Soviet regime must be left out.[46]

Kendrew decided to remove some of the more politically charged comments (see Appendix A). Only Ernst Chain FRS and Ronald Norrish FRS responded with an outright refusal. Norrish replied to say that he thought even a private letter would do more harm than good for Medvedev.[47]

Kendrew's letter precipitated a quite specific reaction amongst the President and past-presidents of the Royal Society; they turned to each other for guidance as to whether it was appropriate to sign the appeal. Sir Robert Robinson (PRS 1945-50) replied to say that he would only sign the protest if Adrian (PRS 1950-55) and Blackett (PRS) agreed to sign it, as he had promised Blackett that he would "fall in" with their joint decision. It was evident in his response that someone had proposed the idea to Robinson that the President and past-presidents of the Society should present a united front on the matter. Although Robinson had agreed to go along with this, he thought this idea was not well founded:

> We do not, in our personal capacities involve the R.S. in any way. In fact the Founders laid it down as a principle that the Society will never enforce opinion as a body – but Fellows can do what they like.[48]

The reason they were concerned about signing the appeal as individuals, according to Robinson, was that the Society's constitution was probably not understood abroad, and the participation of the PRS and past-presidents could be misinterpreted as representing the Society.

Lord Adrian had, in fact, agreed to sign the letter the previous day, but he wrote again on 12 June to say that he would only sign it if it was sent privately to the Soviet Academy and not published in *Nature*.[49] William L. Bragg and Alexander Todd also replied to Kendrew saying that they would only sign a public appeal if Blackett did. Kendrew's tally chart of 14 June indicates that he was still waiting

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[46] OX Kendrew [MS.Eng.c.2606/0.18]: W.L. Bragg to Kendrew, 10/06/1970. See also D.H.R. Barton to Kendrew, 09/06/1970.
[47] OX Kendrew [MS.Eng.c.2606/0.18]: Kendrew's hand-drawn chart of UK responses, 14/06/1970.
[48] OX Kendrew [MS.Eng.c.2606/0.18]: Robinson to Kendrew, 12/06/1970.
[49] OX Kendrew [MS.Eng.c.2606/0.18]: Adrian to Kendrew, 11/06/1970; Adrian to Kendrew, 12/06/1970.

for a decision from Blackett.[50] Before Kendrew was able to complete the appeal, Medvedev was released on 17 June, amidst strong protest from some of his Soviet colleagues for him to be released.[51] However, he soon found out that he was still to be considered as an outpatient, under a definition of his illness as "incipient schizophrenia" with "paranoid delusions of reforming society".[52]

Soviet Academician Andrei Sakharov also became a major subject of KGB surveillance during this period. The principal designer of the Soviet hydrogen bomb, Sakharov later criticised the arms race and became a human rights activist. In 1968 he published an essay in the West: *Progress, Coexistence, and Intellectual Freedom* which criticised the arms race and the increasing repression of Soviet dissidents, and endorsed the idea of convergence - the integration of communist and capitalist systems.[53]

Andropov himself was following Sakharov's movements. During 1971 he reported to the Central Committee of the Communist Party of the Soviet Union (CPSU) that Sakharov continued to provide the focus for an allied group of Soviet dissident scientists, including Medvedev, despite attempts made by the KGB to use scientists, including Academician Keldysh (President of the Soviet Academy), to draw him away from his political activity and engage him in scientific work.[54]

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[50] OX Kendrew [MS.Eng.c.2606/0.18]: Kendrew's hand-drawn chart of UK responses, 14/06/1970; Kendrew's note on Bragg, undated.

[51] OX Kendrew [MS.Eng.c.2606/0.18]: Taylor F. (18 June 1970): "Soviet scientists win freedom for colleague", *The Telegraph*; Anon. (18 June 1970): "Detained Soviet biologist freed", *The Times*; Zorza V. (18 June 1970): "Protests lead to scientist's release", *The Guardian*. These articles referred to protests by Soviet scientists, but *The Guardian* article acknowledged intentions in the West to associate themselves with such protests.

[52] Medvedev (1971), 174-178. See also Cahn (31 Oct 1970): "Restrictions on Soviet Scientists", *Nature* **228**, 485. Cahn was elected FRS in 1991. Here Cahn reports that Medvedev has had trouble trying to attend a conference a Sheffield.

[53] AC Andrei Sakharov KGB File, Background information http://www.yale.edu/annals/sakharov/about_the_project.htm accessed 26/01/2010; Fireside H. (1989): "Dissident Visions of the USSR: Medvedev, Sakharov & Solzhenitsyn", *Polity* **22** (2), 219.

[54] AC Andrei Sakharov KGB File: [e024.txt] 12/02/1971; [e028.txt] 17/04/1971. See also Fireside (1989), 217 on Medvedev's intellectual circle.
Mstislav Vsevolodovich Keldysh was the President of the Academy of Sciences of the USSR (1961 – 1975), a member of the Central Committee of the CPSU (from 1961), and of the Supreme Soviet of the Soviet Union (from 1962). He was closely associated with the Russian space programme and with the launching of the Sputnik satellites. In September 1973 he jointly signed the KGB document stating that Sakharov was an enemy of the socialist system, and that if Keldysh, among others, could not persuade him to terminate his political activities, he should be charged and exiled and his position as an Academician should be revoked. AC Andrei Sakharov KGB File: [e064.txt] 28/09/1973. In December that year, Sakharov was elected as an Honorary Life Member

According to Andropov, Sakharov continued to protest against the repression of Soviet dissidents and their incarceration in psychiatric hospitals, transmitting "slanderous" information to organisations and private individuals in the West. Andropov recommended the adoption of urgent measures, and reported that "meeting regularly with anti-Soviet individuals, some of whom are mentally ill, Sakharov, to a large extent, looks at the reality around him through their eyes. He imagines that he is constantly subjected to provocations, surveillance, eavesdropping, etc.".[55]

Thompson had confided in his fellow Officers in the Society in January 1970 that he was considering resigning from the 'Kosygin Committee' due to the continued Soviet oppression of his Czechoslovak colleagues.[56] Kosygin himself had been responsible for approving Andropov's "urgent measures" against Sakharov's dissident behaviour the following month.[57] Thompson felt that he indirectly represented the views of the Society, and, crucially, that his ongoing collaborations with the Soviets were no longer supported by most Fellows.

> From what I have heard over many months, many Fellows of the RS are beginning to feel that we should not continue to watch the victimisation of our colleagues without doing something about it. This comes at a time, moreover, when the British Government condemns the oppression of coloured people by one country or another, but is ready to ignore the oppression of honest men and women by the USSR.[58]

Thompson felt that nothing could be done by the Society directly and that a public attack might do more harm than good for their dissident colleagues. However, in the following years, further pressure from within the Society was to present a

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of the New York Academy of Sciences. Andropov considered this to be "another premeditated action of the enemy's Secret Service used to stimulate his disturbing activities and to advance Sakharov's attempts to receive permission for a visit in the USA". AC Andrei Sakharov KGB File: [e072.txt] 25/01/1974. See also [r072.txt] 21/12/1973.

[55] AC Andrei Sakharov KGB File: [e028.txt] 17/04/1971. See also [e013.txt] 'Andropov to the Central Committee (20 April 1970)', when Andropov requests permission to install secret listening devices in Sakharov's apartment.
In 1980 Sakharov was stripped of his honours by the Soviet government and exiled to Gorky. He was released in 1986 under the Gorbachev government.

[56] RS Thompson [HWT 33] Folder B.527: Thompson to Officers, 06/01/1970, pp4-5.

[57] AC Andrei Sakharov KGB File: [e024.txt] 12/02/1971.

[58] RS Thompson [HWT 33] Folder B.527: Thompson to Officers, 06/01/1970, p5.

further challenge to them to act and this was not itself without political substance.[59]

### 5.4 Ziman's challenge to the Royal Society

In June 1973, *Nature* published "A Second Letter to an Imaginary Soviet Scientist" by John Ziman. The letter focused on an imaginary Soviet colleague who had been dismissed from his post and had his scientific work removed from libraries for asking to be allowed to emigrate to Israel. This was a real problem for Jewish Soviets at the time, as raised in *Nature* six months earlier by Dudley Spalding (FRS 1983) in an open letter to Academician Keldysh. Spalding, and his five fellow signatories, urged the President to "publicly condemn such disgraceful treatment of those who dare to fight for their natural human rights", or consign himself to being a supporter of such behaviour.[60] Ziman, too, perceived that an institutional rather than a personal condemnation was in order. He argued that the situation constituted "such an infringement of the norms of the scientific community" that the Royal Society might consider it its duty to "question the official attitude of the Soviet Academy", for example, threatening a curtailment of the scientific exchange agreement held between the two countries. He argued that this would not be a transgression of the Society's principle of avoiding "politics", though he expressed scepticism that an institutional response would be possible.[61]

Ziman decided to state explicitly why he thought this was the case and on 7 December 1973 he set out his views in *Nature* once again. This article, "The Problem of Soviet Scientists", was presented specifically as a challenge to the Royal Society. He urged them to act publicly on several matters relating to dissident Soviet scientists: deletion of their names from scientific papers, their incarceration in psychiatric clinics on the basis of questionable diagnoses, and restrictions on their international travel. He claimed that there were two warring groups within the Society that were preventing useful discussion and action on the

[59] RS Thompson [HWT 33] Folder B.527: Thompson to Officers, 06/01/1970, pp4-5.
[60] Spalding (1972): "Soviet Scientists", *Nature* **240**, 497. Also signed by Benjamin Levich, corresponding member of the Academy of Sciences of the USSR, Professor Alexander Lerner, Professor Vladimir Mash, Professor Jevsei Ratner, and Professor Alexander Voronel (all scientists).
[61] Ziman (1973a): "A Second Letter to an Imaginary Soviet Scientist", *Nature* **243**, 489.

issue of dissident Soviet scientists: the "Soviet apologists" who dismissed any criticism of the Soviet Union as ideologically motivated; and the "official 'realists'" who believed that secret diplomacy was more effective than open comment. The latter group were also referred to as "administrative realists", a thinly veiled synonym for the Officers of the Society; indeed Ziman appeared to be hanging out their dirty laundry in public.[62]

Ziman addressed his article to the conscience of the "large middle body" of Fellows, who, he claimed, were reluctant to upset the *status quo*.[63] He appealed to universalism as the norm of scientific exchange, and considered the politically motivated behaviour of the Soviet authorities as a corruptive force on the country's science. Yet, Ziman's own politics were only just below the surface. He had been a member of the Communist Party of Great Britain during World War II (WWII), but became disillusioned with orthodox Marxism, leaving the Party before moving to Oxford to start his career as a theoretical physicist.[64] In his second piece in *Nature*, Ziman argued that:

> […] the Soviet government does not understand the delicate social structure of the Republic of Science, and persists in treating its scientific workers and scientific institutions as entirely subservient to immediate national political ends.[65]

The "Republic of Science" almost certainly referred to the well-known article of that name by Michael Polanyi FRS, which first appeared in *Minerva* in 1962. Polanyi had argued that science proceeded naturally according to 'free market' principles. Republic meaning literally 'the public affair' referred to a government responsible to the people, and therefore Polanyi's well-known phrase conjured up

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[62] Ziman (1973b): "The Problem of Soviet Scientists", *Nature* **246**, 322-323.
[63] Ziman (1973b): "The Problem of Soviet Scientists", *Nature* **246**, 322-323.
[64] Berry M., Nye J. F. (2006): "John Michael Ziman. 16 May 1925 - 2 January 2005: Elected FRS 1967", *Biographical Memoirs of Fellows of the Royal Society* **52**, 483, 486-490. **John Ziman** (FRS 1967) was a theoretical physicist, born in New Zealand. He held strong interests in the sociology and philosophy of science, his career moving decisively into social science from the late 1960s. He played a key role in setting up the Science Policy Support Group, became Chairman of the Council for Science and Society, and a member of the 1985 Bodmer Committee on the public understanding of science, allowing him to pursue his interests in the social responsibility of scientists.
[65] Ziman (1973b): "The Problem of Soviet Scientists", *Nature* **246**, 322-323.

an image of science and democracy as natural bedfellows.[66] Ziman also referred to this article by Polanyi in a book he published in 1968 entitled *Public Knowledge: The Social Dimension of Science*, which emphasised the dangers of rational planning and orthodoxy in science.[67]

As we saw in chapter 1, Polanyi belonged to a group of allied elite scientists, with strong roots in the Royal Society, who were associated with a liberal discourse and those who held anti-communist sentiments. The main intellectual opposition to this point of view in the late 1960s and early 1970s came from some old hands of the Left such as Bernal and J.B.S. Haldane, along with new faces such as the Australian, Eric Burhop FRS. These individuals were most likely the core of the group of "Soviet apologists" to which Ziman referred.

A Left-Right or East-West dynamic amongst Fellows was evident in the response that Ziman's article elicited in *Nature* from Burhop, who argued that, whilst some of Ziman's criticisms were justified, he had vastly oversimplified the problem by ignoring the differences between Eastern and Western values:

> In a society based on social ownership of the means of production, the operation of a planned economy is likely to require more restrictions in some directions than in a society based on the vagaries of the free market. Many people, including I believe many scientists or writers, may feel this a price well worth paying for a society founded on socialist principles, in which continued social, economic, and cultural advance is assured.[68]

It was clear in this analysis where Burhop's ideological loyalties lay. He had been part of the Manhattan Project during WWII and subsequently devoted much of his life working towards nuclear disarmament. He was a founding member of the Australian Association of Scientific Workers, was associated with the World Peace Movement, and played a pivotal role in establishing the Pugwash conferences. In 1969 he became the President of the World Federation of

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[66] Polanyi M. (1962): "The Republic of Science: Its political and economic theory", *Minerva* **1** (1), 54–73.
[67] Ziman J.M. (1974, first published 1968): *Public Knowledge: The Social Dimension of Science* (Great Britain: Cambridge University Press), 137-138. In a footnote, Ziman commented that *The Republic of Science* "strengthens much of the argument of this chapter".
[68] Burhop (1974a): "The problem of Soviet scientists: a reply to John Ziman", *Nature* **248**, 542.

Scientific Workers (WFSW) and was awarded the Joliot-Curie Medal of the World Peace Council.[69]

Burhop found himself excluded from elite Australian academic bodies during the Cold War because most Australian universities required security clearances.[70] His experience as a dissident of the West had a notable impact on his response to Ziman. He turned Ziman's argument on its head, asking people to consider the restrictions on human rights and perversions of science that had occurred in the West before criticising the Soviets:

> […] before the Council of the Royal Society starts making public statements about the matters you raise in your article it might appropriately look at things in Britain. I do not wish to exaggerate but, nevertheless, there are blemishes sufficiently serious for the National Council for Civil Liberties to feel impelled to set up a Council for Academic Freedom and Democracy here.[71]

The Left-Right dynamic was also evident in a number of exchanges in *Nature* in subsequent years between Czechoslovak dissidents, and Burhop as President of the WFSW. In these exchanges, the Federation came under attack for "remain[ing] silent" in the face of Soviet persecution of Czechoslovak dissidents and for underplaying the severity of such cases.[72] The disputed neutrality of the Federation formed the subtext of these interactions. Burhop claimed to be bringing symmetry to the discussion by highlighting comparable cases of political persecution that had occurred in the West.[73] However, Czechoslovak dissident František Janouch, accused the Federation of "ostrich politics" in refusing to

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[69] Buckley-Moran J. (1986): "Australian Scientists and the Cold War", in Martin B., Baker A., Manwell C. and Pugh C. (eds) *Intellectual Suppression: Australian Case Histories, Analysis and Responses* (Sydney: Angus & Robertson), 21; Catalogue of the papers of E.H.S. Burhop (UCL), NCUACS 40/2/93, 'Outline of the career of E.H.S. Burhop.'

[70] Buckley-Moran (1986), 21.

[71] Burhop (1974a): "The problem of Soviet scientists: a reply to John Ziman", *Nature* **248**, 542. Burhop referred to the US government's programme of behaviour modification experiments on prisoners as "a gross professional abuse of psychiatry […]".

[72] Janouch F. (1974): "Professor F. Janouch, of the Niels Bohr Institute, Copenhagen, writes on the plight of the Czechoslovakian academic", *Nature* **251**, 181; Janouch F. (1975a): "Czech persecution", *Nature* **253**, 155. Quote in Janouch (1974).

[73] Burhop E. (1974b): "Victimisation", *Nature* **250**, 458 ; Burhop E. (1974c): "Protests", *Nature* **252**, 187.

accept that the severity of persecution in the Eastern Bloc was above and beyond any such activity in the West.[74]

The exchanges were revealing of both the reputation and the ideology of the WFSW. The Federation's impartiality came under further scrutiny in September 1976 when a large number of delegates to their 11th General Assembly in London had trouble obtaining visas to enter the country. Burhop was quick to publicise this to his own effect in an interview in *Nature*, although their angle on the story was not entirely complimentary:

> Burhop is quick to repudiate the frequent charge that the federation is a communist-controlled or Soviet-dominated organisation. […] but the federation's latest troubles […] suggest that it is still viewed with deep suspicion.[75]

Janouch's response to this article questioned why Burhop was prepared publicly to condemn British bureaucracy, but not the "incomparably heavier" formalities that effectively imposed travel restrictions on scientists in the Eastern Bloc.[76] This issue of open comment versus secret diplomacy, as highlighted by Ziman, was a recurrent theme during this period. In the ongoing feud in *Nature*, the Czechoslovak dissidents called for open support and protest from the worldwide scientific community, whilst Burhop contested that "an informal, low-key approach may often be more effective".[77]

As Ziman had pointed out in his *Nature* article, the Soviet apologists and the Officers of the Society both opposed taking public action on the issue of dissident scientists in the Eastern Bloc, albeit for different reasons. The Officers responded to Ziman's article by laying a strictly confidential paper before Council to

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[74] Janouch F. (1974): "Professor F. Janouch, of the Niels Bohr Institute, Copenhagen, writes on the plight of the Czechoslovakian academic", *Nature* **251**, 181; Janouch F. (1975a): "Czech persecution", *Nature* **253**, 155. Quote in Janouch (1974). Oxford English Dictionary: *ostrichism* – "The action of (figuratively) hiding one's head in the sand; the practice or policy of refusing to face reality or accept facts." Accessed 08/08/2012; Wikipedia: *ostrich policy* – "**[…]** the inability of governments or people to acknowledge that a real problem or danger exist[s]." Accessed 08/08/2012.

[75] Anon. (1976): "A case of suitable treatment?" *Nature* **264**, 105-106.

[76] Janouch F. (1977): "International contacts", *Nature* **265**, 10.

[77] Peleska B. (1974): Untitled, *Nature* **250**, 97; Janouch F. (1974): "Professor F. Janouch, of the Niels Bohr Institute, Copenhagen, writes on the plight of the Czechoslovakian academic", *Nature* **251,** 181; Burhop E. (1974c): "Protests", *Nature* **252**, 187; Antoncik E. (1975): "Czech persecution", *Nature* **253**, 155-156.

consider whether to make a public statement condemning the harassment of dissident Soviet scientists. Concerns were expressed that inaction by the Society would be tantamount to condoning Soviet actions; all the more so given that the Society was due to receive President Keldysh as a guest in Britain, and that the President and others were due to attend the 250th anniversary of the Soviet Academy in Moscow in May.[78] The Council acknowledged that there was, in fact, little evidence to substantiate specific details of individual dissidents' cases, meaning that it might be unwise for the Society to act without further information. PRS Hodgkin echoed his predecessor's reluctance to set a precedent of intervening in political matters, and the Officers were unanimously against taking public action. In the end, a divided Council resolved to wait for more information.[79]

Following the Society's inaction, Ziman circulated a letter to all Fellows in February 1974 (see Appendix B), urging those with an opinion on the matter to speak up, and to act on the issue either "through the Society" or as a group of individuals.[80] John R. Baker FRS, a scientist well known for his right-wing opinions, responded to Ziman's letter to say he was strongly in favour of action being taken. He too subsumed the issue into a broader East-West battle of ideologies, commenting that a possible reprint of his 1945 treatise *Science and the Planned State* would include a new introduction, supporting Ziman's grievances as expressed in his *Nature* article "The Problem of Soviet Scientists".[81]

Former PRS Blackett also replied to Ziman. He felt that direct action by the Council would be counterproductive in helping Soviet scientists. The only likely result of Ziman's article in *Nature*, he said, would be that Ziman would have trouble getting a visa should he wish to visit the USSR. Blackett said he would rather "vote for diplomacy" than take action as a body which could further

[78] RS Council Minutes vol 25 (1973-76), 17/01/1974 pp23-25 minute 8.
[79] RS Council Minutes vol 25 (1973-76) 17/01/1974 pp23-25 minute 8; vol 24 (1970-73) 11/10/1973 pp809-810 minute 18.
[80] RS Council Minutes vol 25 (1973-76) 07/03/1974 p84 minute 7. See full letter in Appendix B of this chapter.
[81] OX Baker [BAKER MS.Eng.misc.c.920/ F.44]: Ziman to Baker, 02/1974; Baker to Ziman, 18/02/1974.

endanger communication between scientists.[82] Blackett's response, perhaps unsurprisingly, was typical of the "official realists'" position that Ziman had previously set out in *Nature*. The Society's Council also considered Ziman's letter. The Foreign Secretary, Sir Kingsley Dunham, was concerned about what Ziman meant by taking action "through the Society". PRS Hodgkin, with Council's authorisation, responded by calling Ziman to an informal lunch with the Officers, at which Ziman presented his responses (about 175) from the fellowship and pressed for a stated charter of the moral principles of science.[83]

Meanwhile, the Officers continued to exert influence in the private manner that Ziman had criticised. The Officers met informally with those from the Royal College of Psychiatry who were taking public action over the alleged Soviet political abuse of psychiatry. The meeting discussed at length the details of dissidents' cases and Hodgkin passed on evidence to support individuals' cases which had been provided by Council member Professor Michael Atiyah.[84] PRS Hodgkin wrote to Keldysh to express his hope that the removal of dissident authors' names from scientific papers had not happened with his knowledge or approval.[85] The Foreign Secretary told Council that he would attempt to discuss problems privately with members of the Soviet Academy during the anniversary celebrations in Moscow.[86] Hodgkin met with Academicians Kirillin and Kotel'nikov (Deputy Soviet Prime Minister and Chairman of the Soviet State Committee for Science and Technology, and Vice-President of the Soviet Academy of Sciences respectively) in London to discuss visas for travelling scientists. This approach of, in Ziman's words, "secret diplomacy" seemed to work, for the Officers found the discussion both friendly and useful.[87]

Ziman wrote again to the Society in May 1975, enclosing a 'Statement on international scientific communication' signed by fifty-two Fellows. This document was the culmination of Ziman's efforts to produce a charter of the

[82] RS Blackett [PB/9/1/133] 'Correspondence with John Michael Ziman, 1974': Ziman to Blackett, 02/1974; Blackett to Ziman, 16/02/1974.
[83] RS Council Minutes vol 25 (1973-76) 07/03/1974 pp84-86 minute 7; 04/04/1974 p112 minute 10.
[84] RS Council Minutes vol 25 (1973-76) 07/03/1974 p25, p85 minute 7; 23/05/1974 pp141-142 minute 38 (v).
[85] RS Council Minutes vol 25 (1973-76) 04/04/1974 p112 minute 10.
[86] RS Council Minutes vol 25 (1973-76) 07/03/1974 p86 minute 7.
[87] RS Council Minutes vol 25 (1973-76) 23/05/1974 p142 minute 38 (v).

moral principles of science. Ziman's initiative called for the Council to adopt the statement publicly as Society policy. The Council's reaction was more uncompromising than on previous occasions. Unilateral adoption of the 'Statement', they argued, would achieve little and might cause repercussions for those dissidents it was intended to help. The Foreign Secretary suggested that the policies endorsed by the International Council for Scientific Unions (ICSU) and the United Nations Educational, Scientific and Cultural Organisation (UNESCO) already provided a sufficient statement of international scientific etiquette, and given that the Society fully subscribed to these, no further statement from the Society was necessary. On this motion, Council voted fourteen for and two against, and Ziman was once more informed that the Society would take no public action.[88]

## 5.5 Conclusion

Despite prolonged discussion over at least seven years, across changes of Officers and Council members, the Society decided to take no public action as an institution on the plight of dissident scientists in the Eastern Bloc. Their decision not to act was indicative of the Society's ethos and their position relative to the British state, highlighting too a number of continuities in the Society's history.

Firstly, the theme of institutional versus individual action of Fellows was prominent. This raised the question of what constitutes the Society and who represents it? Thompson felt that even the decisions he made as an individual were taken to be representative of the Fellows' wishes, especially if he was acting in an arena conferred on him by a concomitant position, such as the Kosygin Committee. Some international commentators also perceived individual Fellows' actions as speaking for the Society by proxy, such as Ziman's letters to *Nature*. Despite this problem, the Officers' advice to the Fellows continued to be to act on issues as individuals and this was indicative of their desire to take a public stance without the attendant risks of doing so officially as an institution.

[88] RS Council Minutes vol 25 (1973-76) 12/06/1975 pp509-510 minute 12; 10/07/1975, pp537-538 minute 19.

Secondly, the episode draws attention to the close ties between Officers of the Society and senior civil servants. Here, the diplomatic value of the Society's scientific exchange programme with the Soviet Academy of Sciences acted as a significant counterweight to taking public action on behalf of dissident scientists of the Eastern Bloc, which could be perceived as anti-Soviet. The extent to which this dynamic was driven by the desire to appease senior civil servants, or a genuine belief in rapprochement with the East, or a combination of both, is difficult to discern. Thompson clearly had an internal battle in allowing diplomacy to win out, yet he still advocated the policy of Soviet appeasement on a number of occasions.

This brings us to the third theme, that of open comment versus backroom diplomacy. The informal, backroom culture described in chapter 3 between civil servants and Fellows, created a juxtaposition which allowed the Society to nurture an image of outward neutrality, whilst engaging in political debates behind closed doors. This approach, recurrent in the Society's history throughout the 20th Century, extended to how to deal with dissidents within their own ranks. Indeed, by calling Ziman to an informal lunch with the Officers, he was dealt with in exactly the kind of backroom manner that he was trying to oppose.

## 5.6 Appendix

**A**

RS Thompson [HWT 33] Folder B.259

"DRAFT – 9th June 1970"

We the undersigned wish to express the profound concern and anxiety which we feel, and we believe the whole scientific community feels, on learning the news of the recent arrest of the distinguished Russian geneticist Zhores Medvedev. We have read reports, of which there is so far no official denial or confirmation, that since his arrest Medvedev has been confined to a psychiatric hospital, as has happened to several other Soviet intellectuals in the past. We are aware of the remarkable book which Medvedev has written about the Lysenko affair. His analysis, precise and objective, constitutes a powerful indictment of the methods

of ideological suppression of the truth that were used in the time of Stalin. We sincerely hope the Soviet authorities will not again resort to such methods which, besides inflicting suffering and persecution upon scientists, resulted in the disruption of Soviet sciences and discredited it in the eyes of the rest of the world.

We particularly deplore the confinement of Medvedev on a pretext of psychiatric illness. The use of this arbitrary method of silencing him, perhaps more effective but certainly more odious than a public prosecution, indicates that Medvedev's activities had not infringed the law, and it must be resisted by all who believe in justice and in scientific integrity.

We wish to appeal to the conscience of all scientists that they should, by all means in their power, make known their unanimous reprobation. It is the duty of scientists, even more than of other men, to defend Science itself in the person of any of their colleagues confined and silenced simply on account of his ideas.

OX Kendrew [MS.Eng.c.2606/0.18]

"DRAFT – 11th June 1970"

We the undersigned wish to express the profound concern and anxiety which we feel, and we believe the whole scientific community feels, on learning the news of the recent arrest of the distinguished Russian geneticist Zhores Medvedev. We have read reports, of which there is so far no official denial or confirmation, that since his arrest Medvedev has been confined to a psychiatric hospital.

We are aware of the remarkable book which Medvedev has written about the Lysenko affair. His analysis, precise and objective, constitutes a powerful indictment of the methods of ideological suppression of the truth that were used in past times. We sincerely hope the Soviet authorities will not again resort to such methods which, besides inflicting suffering and persecution upon scientists, resulted in the disruption of Soviet biological science and discredited it in the eyes of the rest of the world.

We particularly deplore the confinement of Medvedev on a pretext of psychiatric illness. The use of this arbitrary method of silencing him strongly suggests that

Medvedev's activities had not infringed the law, and it must be resisted by all who believe in justice.

We wish to appeal to the conscience of scientists that they should, by all means in their power, make known their deep anxiety. The occurrence of distressing incidents of this kind cannot fail to prejudice communication and good relations between scientists, and indeed others, throughout the world. We deeply hope they will not occur in the future.

**B**

RS Council Minutes vol 25 (1973-76) 07/03/1974 p84 or RS Blackett [PB/9/1/133]

Ziman's letter to Fellows, February 1974

You may not have seen the enclosed article when it appeared in Nature on December 7th 1973. The Council of the Society has already been asked to take action along the lines suggested, but has declined on the general grounds that "behind the scenes" pressure is more effective. But the whole matter is of such importance and such urgency that I hope you will excuse me for approaching you personally about it. May I ask, therefore, for any comment you feel able to make, whether in confidence or for possible publication. Any further steps that might then be taken, either through the Society or by a group of individuals, would depend on the response to this letter, which is being sent to all Fellows.

# Conclusion



## 6.1 Overview and further avenues for research

This thesis has made the first significant inquiry into the history of the Royal Society during the Cold War. I have explored episodes and trends in the Society's Cold War history that have highlighted the simmering tensions in the post-war dynamic of the Society. I have shown that, whilst the Society as an institution carefully nurtured its image of independence, its individual Fellows and staff were incredibly well-connected to members of the government, and could exert much influence on national science policy at an informal level. I have juxtaposed the apparent impartiality of the Society with the political activity of its Fellows and Officers as individuals, and challenged the apparent political neutrality of some Officers. Especially in the field of international scientific relations, the Society was very politically engaged with the government, civil servants, and important political figures. Indeed, the Officers and staff could be very politically astute at mobilising international issues to influence the course of domestic affairs.

The Cold War context brought particular challenges for the Society. It was a time when funding for science expanded rapidly and its institutions became more enmeshed with government and its agendas, especially in relation to national security. With this expansion came more competing science organisations, which pushed the Society increasingly into a position whereby they wished to emphasise their independence from government as their main commodity. Yet at the same

time, science, whose most iconic body in Britain was the Royal Society, was symbolically enlisted in the West as the embodiment of liberal democracy. Moreover, its successful development under capitalism was contrasted by politicians and many, but not all, scientists with the weakness of science in the Soviet Union. Thus, the Royal Society was in an ambiguous position, claiming to transcend politics while being in the eye of the storm of the Cold War.

The symbolic place of the Society at the 'birth' of modern science became the subject of much attention and reinterpretation in this period, because figures on all sides considered that the past held some static truth or prescription for the 'natural' development of science. In chapter 1 I showed how the Society became a contested emblem in the freedom and planning debate, and, at the climax of the Lysenko affair, a symbol of Western democracy and freedom in science. Despite being painted in political colours, especially by anti-Soviet activists, the Society remained an effective international agency, able to permeate national boundaries and ideological divides, such that the government used them directly in certain schemes when normal political and diplomatic channels were blocked.

The Society's ideal of internationalism in science drove much of its work in the sphere of foreign affairs. Officers used exchange visits, conferences, and collaborations to build bridges with foreign scientists and academies, and often in those countries that had difficult political relations with Britain. Yet many of these initiatives were often driven by nationalistic agendas; amongst the most important were halting the 'brain drain' and countering the alleged decline in British science. The thesis has drawn attention to a shared 'Western' national agenda between government officials and representatives of the Society that underpinned some of this activity. Officers and staff were also astute at exploiting political sensitivities in order to secure funding. Such was the case with the funding for the Royal Society European Programme, which came from the British government in the context of countering American predominance, and from the US Ford Foundation in the context of bolstering a Western alliance in Europe.

As outlined in the Introduction, this thesis opens up new areas for research on the Royal Society's post-war history, especially its relations with the defence services, and its involvement with the IGY. In this area, the Society's Defence Services Research Facilities Committee would be particularly interesting to look

at.[1] There is further work to be done on the Society's exchange agreements with Eastern Europe, especially on how these were seen from the other side of the Iron Curtain.[2] My research ends before the full impact of the Rothschild Report was felt, which raised new questions about planning that challenged the place and support of 'pure science', the element of the enterprise that the Society was most identified with and felt most obligated to defend.[3] My own personal preference, though it would have been outside of the remit of the thesis, would have been to pursue a biography of Harold Thompson. Alongside his roles in international scientific relations and diplomacy, he was closely involved with the Football Association as its Vice-Chairman (1967–76), Vice-President (1969–80), and Chairman (1976–81). There seem to have been parallels between international sporting relations and diplomacy and those of science, both of which could claim to be apolitical in terms of East-West relations and Left-Right ideologies.[4]

## 6.2 The scientific Left and Right and the course of the Cold War

The thesis has discussed how figures from the scientific Left and Right impacted on the Royal Society during the Cold War. The debates of the scientific Left and Right of the interwar and WWII period shifted from the 1950s into new arenas. The Left regrouped around issues of peace and disarmament, with the Bernalists and members of the WFSW defending the USSR and praising its science. Others on the Left focussed on the social functions of science and, from the 1960s, mainstream science policy such as Labour's 'white heat'. On the other side, Polanyi, Baker and those associated with the Congress for Cultural Freedom

[1]See RS Council Minutes vol 17 (1945-48) 06/05/1948 p412 as a starting point, when the Committee was first established.
[2] These exchanges were funded via the Foreign Office Information Vote. TNA Foreign and Commonwealth Office [FCO 26/415] 'Expenditure of funds in information vote, 1968-9' may be a starting point.
[3] See Anon. (18th February 1972) "Royal Society Puts Case" *Nature* **235**, 351-352; RS Thompson [HWT 32] 'Royal Society Ad hoc Committee on Government Research and Development Study (Rothschild Committee), 1971'.
[4] On international sport and diplomacy see: Polley M. (1998): "The diplomatic background to the 1966 football world cup", *The Sports Historian* **18** (2), 1-18; Homburg H. (2006): "FIFA and the "Chinese Question", 1954-1980: an Exercise of Statutes", *Historical Social Research* **31** (1), 69-87; Cary N.D. (2011): "Olympics in divided Berlin? Popular culture and political imagination at the Cold War frontier", *Cold War History* **11** (3), 291-316. There is relevant material available at the Royal Society and the Football Association. See RS Thompson [HWT 48] 'Football Association, 1934-83'.

defended the West and highlighted the plight of scientists in the USSR, many of whom were imprisoned for their ideas and work.[5]

The thesis has touched on all these issues, and in a way that tells us something novel about the Royal Society. Perhaps most importantly, my analysis of the freedom and planning debate has illuminated the Society's symbolic position at its heart. From around 1948 this became less contested and more accepted in favour of the freedom lobby, and the Society became a "mainstay of freedom".[6] During the 1950s its staff and leading figures successfully maintained its image of a 'free Society', independent of political ideology. However, at times the image cracked, for example, with its involvement in politically-charged projects such as the IGY and in its treatment of left-wing scientists, who were pushed into outsider positions for advocating nuclear disarmament and not being sufficiently anti-Soviet.

From the mid-1960s, leftist Fellows, such as Blackett, and to an extent Massey, who had been excluded from the inner circles of government, found their way back into influential positions in the Society and in government. Blackett was able to use his platform as PRS to pursue his technocratic ideals. I have shown how he utilised the Aldabra affair as a by proxy battleground to argue for a greater role for scientists in the state. Meanwhile, manifestations of the scientific Left and Right were pulling the Society in different directions over dissidents of the Eastern Bloc. The sentiments and, in some cases, the individuals involved in this episode were strongly associated with factions from the earlier post-war period. As with the freedom and planning debate, the Officers once again chose to keep out of political issues, whilst encouraging Fellows to take action as individuals and to distance their political ideas and actions from their role in the Society.

### 6.3 Fellows, Officers and permanent staff

The activities and actions of the Society, in theory at least, represented the major will of the Fellows. The individuals that made up the fellowship had other

[5] Werskey G. (1988, first published 1978): *The Visible College: A Collective Biography of British Scientists and Socialists of the 1930s* (London: Free Association Books), 262, 285, 307, 325.
[6] A comment made by Alfred Egerton: Newitt D. M. (1960): "Alfred Charles Glyn Egerton. 1886-1959", *Biographical Memoirs of Fellows of the Royal Society* **6**, 39-64.

loyalties than to the Society: to their home institution, their specialism, their geographical and cultural heritage, and their politics. Chapter 5 explored a case study of an occasion in which the Society had to formulate policy on a Cold War-related issue, but was faced with a divided fellowship. My narrative revealed the routine machinations of the Council as they tried to act as a united body. Yet, one of the issues that was raised by this episode was that of Officers carrying out Society business in an informal and private manner.

Indeed, Officers carried out much of the Society's day-to-day business away from the Council room. Individual Officers could therefore have a big impact on the Society's activities, and the Society could in a sense be as much or as little as they made of it. This dynamic was explored particularly in chapter 3, with Thompson's enthusiasm for European exchanges, and in chapter 4 with Blackett's determination to make an example of the Aldabra affair.

The permanent members of staff were also incredibly influential. The contacts that David Martin and Ronald Keay had with civil servants provided important consistency between the Royal Society and government departments. In the late 1960s/ early 70s, this was essential to the continuation of the Society's Science Advisory Group to the Foreign and Commonwealth Office (FCO), which persisted across changes of government and PRSs. This day-to-day informal contact between the Society and the government has often been referred to by secondary commentators without evidence of its character or importance; this thesis has made good this deficiency.[7] Also, across the chapters I have demonstrated the existence of several informal networks connecting Fellows and staff to other scientists, civil servants and politicians. For example, chapter 1 showed the connections between several Officers of the Society and key members of the freedom in science movement and in chapter 2 I show how these individuals, united by an anti-Soviet consensus, built connections with the counter-propaganda department of the Foreign Office. Although this network had no formal status in the Society, it is further counter-evidence to the claim that it was aloof from politics within science and without.

[7] See also Hughes J. (2012): "Doing Diaries: David Martin, the Royal Society and scientific London, 1947-1950", *Notes and Records of the Royal Society* **66**, 273-294; Hughes J. (forthcoming): "A New Jerusalem for British science? Government, the Royal Society and postwar London", *British Journal for the History of Science*.

A different kind of network was explored in chapter 3. Although this network operated in an informal manner, it grew out of connections made and reinforced in an official capacity. Therefore, it was a network in which its members formally represented the Royal Society. It is particularly valuable then, to the historian of the Royal Society. Chapter 3 shows how it facilitated the honing of a national agenda regarding international science. The Council for Scientific Policy was a facilitator in this network. It provided links for Ronald Keay and David Martin to make informal approaches to the FO/FCO about relations with foreign academies. It was also the route by which Harold Thompson became privy to policy on European integration, particularly in MinTech's agenda.

## 6.4 The balance of power

The thesis has explored a number of episodes, which when considered together, cast light on the power dynamic between the Society and the government. Although these episodes involve a number of different people, and different departments, a comparison is nevertheless interesting. There were occasions in which the staff and Officers made informal enquiries about opening scientific relations with academies in politically sensitive countries. In the case of Taiwan, the Society was very firmly discouraged, with "the strongest objections" from the Far Eastern Department of the FCO. This was due to the importance of the Society's relationship with mainland China for British foreign policy.[8] On this occasion, the Society decided to toe the line, yet they took the opposite decision when faced with the FCO's American Department's objections to establishing relations with Cuba. However, the tone of objection in the latter case was less severe and gave the Society the space to go its own way.

In the Aldabra affair, the Society set itself in opposition to the government. The key difference in this episode, of course, was the public nature of their opposition and that it was able to present a united front. However, the affair was used by Blackett and Dalyell for their leftist agenda and by the anti-East of Suez lobby in Parliament. In contrast, the Officers' decision not to take any public action over

[8] TNA Science and Technology Department [FCO 55/234] 'Steering brief for Mr. Mulley's meeting with the Royal Society, 1969': item 73, "The Royal Society and Taiwan", Boyd to Audland, Gillson (STD), Wilson, Murray (Far East Dept), copied to Hilson (East-West Contacts Dept), 27/10/1969.

the plight of dissident scientists in the Eastern Bloc was one on which the fellowship were divided. Thompson's role in this episode is interesting because he was clearly uneasy about the Society's inaction, yet continued to seek better relations with the Soviet Academy. The evidence suggests that this ambivalence showed the influence of his connections with, and obligations to, the FCO, particularly his relationship with their leading Soviet specialist, Sir Thomas Brimelow.

## 6.5 Final thoughts

In the introduction I set out my intention to study two dynamic tensions in the Society's post-war history. The first of these was the tension between its independence from, and closeness to, British politics and the government. The second was the tension in the fellowship between politically active Fellows of pro-East and pro-West persuasions in the context of the Cold War. I have shown that, although the Fellows as individuals were incredibly well-connected to politicians and civil servants, the Society as an institution, on the whole, managed to keep up the appearances of being an independent organisation, removed from national affairs and politics. It was able to do this because of the informal and often private nature of the relationships that drove much of its activity. The fluid structure of the Society made it ideal for this paradoxical role. During the Cold War, this activity was underpinned by a broad 'Western' consensus on Britain's place in the world, shared between like-minded government administrators and Officers and staff of the Society, to the exclusion of far Left Fellows.

**Bibliography**

Abel-Smith B. (1992): "The Beveridge Report: Its origins and outcomes", *International Social Security Review* **45** (1-2), 5-16.

Abraham E. P. (1971): "Howard Walter Florey. Baron Florey of Adelaide and Marston. 1898-1968", *Biographical Memoirs of Fellows of the Royal Society* **17**, 255-302.

Adams R. P. (1949): "The Social Responsibilities of Science in Utopia, New Atlantis and after", *Journal of the History of Ideas* **10** (3), 374-398.

Adrian E. (1955): "Sir Henry Dale's Contribution to Physiology", *British Medical Journal* **1** (4926), 1355-1356.

Agar J. (1998): *Science and Spectacle: The Work of Jodrell Bank in Post-war British Culture* (GB: Harwood Academic Publishers).

Agar J. (2008): "What happened in the 60s", *British Journal for the History of Science* **41**, 567-600.

Agar J. (2013): "'It's springtime for science': renewing China-UK scientific relations in the 1970s" *Notes and Records of the Royal Society* **67**, 7-24.

Altmann S. L., Bowen E. J. (1974): "Charles Alfred Coulson. 1910-1974", *Biographical Memoirs of Fellows of the Royal Society* **20**, 74-134.

Andrade E. N. da C. (Jun 21 1948): "Records of Research", *The Times* Issue 51103, p5, col C.

Andrade E. N. da C. (1960): *A Brief History of the Royal Society* (London: The Royal Society).

Anon. (15 Nov 1941): "Science in the U.S.S.R." *Nature* **148**, 598 (Letters).

Anon. (26 Nov 1948): "Protest to U.S.S.R. by Sir H. Dale", *The Times* Issue 51239, p4, col D.

Anon. (3rd June 1967): "East of Suez", *Nature* **214**, 957.

Anon. (3rd June 1967): "More about Aldabra", *Nature* **214**, 965.

Anon. (2nd December 1967): "All Change on Aldabra", *Nature* **216**, 841.

Anon. (2nd December 1967): "Parliament in Britain – Aldabra", *Nature* **216**, 847.

Anon. (1968): "Sir Henry Dale", *British Medical Journal* **3** (5613), 261-262.

Anon. (1970): "Miscellaneous Intelligence", *Nature* **225**, 120.

Anon. (1976): "A case of suitable treatment?" *Nature* **264**, 105-106.

Anon. (12th September 1988): "Sir Frank Turnbull: Obituary", *The Times*, Issue 63184.

Anon. (3rd November 2000): "The Chagos Islands: A sordid tale", *BBC News*.

Anon. (11th November 2000): "Lord Greenhill of Harrow: Head of the Foreign Office who in 1971 told the Russians that 90 Soviet diplomats must be expelled for spying", *The Telegraph*.

Antoncik E. (1975): "Czech persecution", *Nature* **253**, 155-156.

Appy, C. G. (2000): *Cold War Constructions: The Political Culture of United States Imperialism* (USA: University of Massachusetts Press).

Aronova E. et al (2010): "Big Science and Big Data in Biology: From the International Geophysical Year through the International Biological Program to the Long Term Ecological Research (LTER) Network, 1957–Present", *Historical Studies in the Natural Sciences* **40** (2), 183-224.

Ashton S. R. (1989): *In Search of Détente: The Politics of East-West Relations Since 1945* (China: Macmillan Education Ltd).

Badash L. (2000): "Science and McCarthyism", *Minerva* **38,** 53–80.

Bacon F. (first printed 1605): "The Advancement of Learning", in: Johnston A. (ed.) (1974): *Francis Bacon: The Advancement of Learning and New Atlantis* (Oxford: Clarendon Press), 3-212.

Bacon F. (first printed 1627): "New Atlantis" in: Johnston A. (ed.) (1974): *Francis Bacon: The Advancement of Learning and New Atlantis* (Oxford: Clarendon Press), 213-247.

Baker J. R. (1939): "Counterblast to Bernalism", *The New Statesman and Nation*, XVIII, 440 (29 July 1939), 174-175.

Baker J. R. (1942): *The Scientific Life* (London: George Allen & Unwin Ltd).

Baker J. R., Tansley A. G. (26 Oct 1946): "The Course of the Controversy on Freedom in Science", *Nature* **158** (4017), 574-576.

Baker J. R., Tansley A. G. (21 Jun 1948): "Publications on Science. Threat to Journals. Resolution at To-day's Conference", *The Times* Issue 51103, p5, col E.

Baker, J. R., Thomson G. P. (15 May 1948): "Proposed Central Publication of Scientific Papers", *Nature* **161** (4098), 771-772 (Letters).

Balmer B., Godwin M., Gregory J. (2009): "The Royal Society and the 'brain drain': natural scientists meet social science", *Notes and Records of the Royal Society of London* **63**, 339-353.

Balmer B. (2012): *Secrecy and Science: A Historical Sociology of Biological and Chemical Warfare* (GB: Ashgate).

Barclay G. (1972): "The Diplomacy of British Entry into Europe: An Australian Perspective", *The Round Table* **62** (245), 101-111.

Barnes B. (1974): *Scientific Knowledge and Sociological Theory* (London: Routledge & Kegan Paul).

Beamish T. (1970): *Aldabra Alone* (London: George Allen & Unwin Ltd).

Beardsley, T. (1st December 1983): "Aldabra's New Status", *Nature* **306**, 419.

Beichman A., Bernstam M.S. (1983): *Andropov: New Challenge to the West* (New York: Stein and Day).

Benn T. (1987): *Out of the Wilderness; Diaries 1963-67* (London: Hutchinson).

Benn T. (1988): *Office Without Power: Diaries 1968-72* (London: Hutchinson).

Bernal J. D. (1939): *Social Function of Science* (London: George Routledge & Sons Ltd).

Bernal J. D. (Jun 23 1948): "Scientific Papers. Professor Bernal's Scheme. Central Distribution", *The Times* Issue 51101, p5, col E.

Bernal J. D. (1948) "Provisional Scheme for Central Distribution of Scientific Publications", in Royal Society (ed): *The Royal Society Scientific Information Conference 21 June – 2 July 1948: Report and Papers Submitted* (London: The Royal Society), 253-258.

Berry M., Nye J. F. (2006): "John Michael Ziman. 16 May 1925 - 2 January 2005: Elected FRS 1967", *Biographical Memoirs of Fellows of the Royal Society* **52**, 479-491.

Black A., Muddiman D. (2007): "The Information Society before the Computer", in Black A., Muddiman D., Plant H. (ed) *The Early Information Society: Information Management in Britain before the Computer* (GB: Ashgate), 3-52.

Blackett P. M. S. (1969): "Address of the President Professor P.M.S. Blackett, O. M., C. H., at the Anniversary Meeting, 30 November 1968", *Proceedings of the Royal Society of London B* **171** (1025), 387-399.

Bloch S., Reddaway P. (1984): *Soviet Psychiatric Abuse: The Shadow over World Psychiatry* (London: Victor Gollancz Ltd).

Blume S.S. (1974): *Toward a Political Sociology of Science* (New York and London: The Free Press, and Collier Macmillan).

Booker M. K. (2002): *The Post-utopian Imagination: American Culture in the Long 1950s* (USA: Greenwood Press).

Boyd Rayward W. (1999): "H. G. Wells's Idea of a World Brain: A Critical Reassessment", *Journal of the American Society for Information Science* **50** (7), 557-573.

Brodribb C.W. (30 Dec 1944): "Letters and Science", *Times Literary Supplement* Issue 2239, 631.

Brown A. (2005): *J. D. Bernal: the sage of science* (USA: Oxford University Press).

Brown D. M., Kornberg H. (2000): "Alexander Robertus Todd, O.M., Baron Todd of Trumpington. 2 October 1907-10 January 1997", *Biographical Memoirs of Fellows of the Royal Society* **46**, 516-532.

Brunet P. C. J., Willmer E. N. (1985): "John Randal Baker. 23 October 1900-8 June 1984", *Biographical Memoirs of Fellows of the Royal Society* **31**, 32-63.

Buckley-Moran J. (1986): "Australian Scientists and the Cold War", in Martin B., Baker A., Manwell C. and Pugh C. (eds) *Intellectual Suppression: Australian Case Histories, Analysis and Responses* (Sydney: Angus & Robertson), 11-23.

Burhop E. (1974a): "The problem of Soviet scientists: a reply to John Ziman", *Nature* **248**, 542.

Burhop E. (1974b): "Victimisation", *Nature* **250**, 458.

Burhop E. (1974c): "Protests", *Nature* **252**, 187.

Burhop E. (1976): "Genuine passion for research", *Nature* **262**, 727-728.

Burhop E. (1977a): "Human qualities and political realities", *Nature* **265**, 765.

Burhop E. (1977b): "Travel rights", *Nature* **266**, 494.

Burhop E. (1977c): "From détente to development", *Nature* **269**, 187-188.

Butler D., Butler G. (1987): *British Political Facts 1900-1985 6th edition* (Hong Kong: Macmillan Press).

Cahn R. W. (1970): "Restrictions on Soviet Scientists", *Nature* **228**, 485.

Cameron L., Forrester J. (1999): "'A Nice Type of the English Scientist': Tansley and Freud", *History Workshop Journal* **48**, 64-100.

Campbell A. (11th November 2000): "Lord Greenhill of Harrow: Distinguished mandarin who served Britain under three prime ministers", *The Guardian*.

Carter R. (ed) (1999) *George Orwell: Animal Farm* (London: Penguin Books Ltd).

Chaston P. (Oct 1997): *Gentlemanly professionals within the civil service: Scientists as insiders during the interwar period* (unpublished thesis – The University of Kent at Canterbury).

Clapham A. R. (1980): "Edward James Salisbury. 16 April 1886 - 10 November 1978", *Biographical Memoirs of Fellows of the Royal Society* **26**, 502-541.

Collins P. (2010): "A role in running UK science?" *Notes and Records of the Royal Society* **64**, 119-130.

Collins P. (2011): "Presidential politics: the controversial election of 1945", *Notes and Records of the Royal Society of London* **65**, 325–342.

Cornforth J. W., Todd A. (1976): "Robert Robinson. 13 September 1886 - 8 February 1975", *Biographical Memoirs of Fellows of the Royal Society* **22**, 414-527.

Cox S. (2010): "The Royal Society in Cold War Europe", *Notes and Records of the Royal Society of London* **64,** 131-136.

Crane D. (1971): "Transnational Networks in Basic Science", *International Organization* **25** (3), 585–601.

Crawford E. (1992): *Nationalism and Internationalism in Science, 1880-1939* (USA: Cambridge University Press).

Crick F. et al (1969): "International Conferences", *Nature* **224**, 93-94.

Crosland M. (2005): "Relationships between the Royal Society and the Acadmie des Sciences in the Late Eighteenth Century," *Notes and Records of the Royal Society of London* **59** (1), 25-34.

Crossman R., Koestler A. (eds) (1950): *The God That Failed: Six Studies in Communism* (London: Hamish Hamilton).

Crossman, R. (1976): *The Diaries of a Cabinet Minister Volume Two: Lord President of the Council and Leader of the House of Commons 1966-1968* (London: Hamish Hamilton & Jonathan Cape).

Cunningham A. (1988): "Getting the game right: Some plain words on the identity and invention of science", *Studies in the History and Philosophy of Science* **19**, 365-89.

Dale H. H. (6 Dec 1941): "International Collaboration and Freedom of Science", *Nature* **148** (3762), 678-80.

Dale H. H. (1942): "Address of the President Sir Henry Dale, C.B.E., at the Anniversary Meeting, 1 December 1941", *Proceedings of the Royal Society of London B* **130**, 227-254.

Dale H. H. (1943): "Address of the President Sir Henry Dale, C.B.E. Anniversary Meeting, 30 November 1942", *Proceedings of the Royal Society of London B* **131**, 204-206.

Dale H. H. (1944a): "Henry George Lyons. 1864-1944", *Obituary Notices of Fellows of the Royal Society* **4** (13), 795-809.

Dale H. H. (1944b): "Address of the President Sir Henry Dale, G.B.E., at the Anniversary Meeting, 30 November 1943", *Proceedings of the Royal Society of London B* **132**, 1-27.

Dale H. H. (1945): "Address of the President Sir Henry Dale, O.M., G.B.E., at the Anniversary Meeting, 30 November 1944", *Proceedings of the Royal Society of London B* **132**, 333-347.

Dale H. H. (1946a): "Address of the President Sir Henry Dale, O.M., G.B.E., at the Anniversary Meeting, 30 November 1945", *Proceedings of the Royal Society of London B* **133**, 123-139.

Dale H. H. (1946b): "The Freedom of Science: Pilgrim Trust Lecture, read 22nd October, 1946, in Philadelphia before the National Academy of Sciences" in: Dale H. H. (1954): *An Autumn Gleaning: Occasional Lectures and Addresses* (London: Pergamon Press), 64-81.

Dale H. H. (1948a): "Science in Education: The Foundation Oration delivered at Birkbeck College (University of London) on the occasion of the celebration of the 124th anniversary of the Foundation of the College, 4th May, 1948" in: Dale H. H. (1954): *An Autumn Gleaning: Occasional Lectures and Addresses* (London: Pergamon Press), 98-113.

Dale H. H. (1948b): "Accident and Opportunism in Medical Research: Being the Popular Lecture delivered on 2nd July at the Annual Meeting of the British Medical Association, Cambridge, 1948" in: Dale H. H. (1954): *An Autumn Gleaning: Occasional Lectures and Addresses* (London: Pergamon Press), 114-127.

Dale H. H. (1949): "Medical Research as an Aim in Life: A Lecture delivered to the Royal Medical Society, Edinburgh, 21st January, 1949" in: Dale H. H. (1954): *An Autumn Gleaning: Occasional Lectures and Addresses* (London: Pergamon Press), 128-142.

Dale H. H. (1951): "Medicine, Yesterday and To-morrow: Lecture in connection with the Festival programme organized jointly by the British Medical Association and the Royal Society of Medicine, delivered on 20th June, 1951, in the Great

Hall, B.M.A. House" in: Dale H. H. (1954): *An Autumn Gleaning: Occasional Lectures and Addresses* (London: Pergamon Press), 183-198.

Dalyell, T. (1983): *Science Policy for Britain* (London: Longman).

Dalyell T. (4th August 1995): "Obituary: Lord Brimelow", *The Independent*.

Dalyell T. (2011): *The Importance of Being Awkward: The Autobiography of Tam Dalyell* (Edinburgh: Berlinn Ltd).

Daston L., Park K. (eds.) (2006): *The Cambridge History of Science Vol. 3: Early Modern Science* (GB: Cambridge University Press).

de Chadarevian S. (2002): *Designs for Life: Molecular Biology after World War II* (UK: Cambridge University Press).

Dean K., Naylor S., Turchetti S., Siegert M. (2008): "Data in Antarctic Science and Politics", *Social Studies of Science* **38** (4), 571-604.

Dear P. (1985): "Totius in verba: Rhetoric and Authority in the Early Royal Society", *Isis* **76** (2), 144-161.

Defty A. (2004): *Britain, America, and Anti-Communist Propaganda 1945-53: The Information Research Department* (Routledge). Cass Series: 'Studies in Intelligence' eds Christopher Andrew and Richard J. Aldrich.

Dejong-Lambert W., Krementsov N. (2012): "On Labels and Issues: The Lysenko Controversy and the Cold War", *Journal of the History of Biology* **45**, 373–388.

Douglas M. (1987, first published 1986): *How Institutions Think* (London: Routledge & Kegan Paul Ltd).

East H. (1998): "Professor Bernal's 'Insidious and Cavalier Proposals': The Royal Society Scientific Information Conference, 1948", *Journal of Documentation* **54** (3), 293-302.

Edgerton D. (1996): "The White Heat Revisited: The British Government and Technology in the 1960s", *Twentieth Century British History* **7** (1), 53-82.

Edgerton D. (2006): *Warfare State: Britain, 1920-1970* (UK: Cambridge University Press).

Edgerton D. (2011): *Britain's War Machine: Weapons, Resources and Experts in the Second World War* (London: Penguin Books Ltd.)

Engelhardt W. A. (1968): "Letter to an Imaginary Soviet Scientist", *Nature* **218**, 404.

Farren W.S., Jones R.V. (1961): "Henry Thomas Tizard. 1885-1959", *Biographical Memoirs of Fellows of the Royal Society* **7**, 313-348.

Favretto I. (2006): "The Wilson Governments and the Italian Centre-Left Coalitions: Between 'Socialist' Diplomacy and *Realpolitik*, 1964–70", *European History Quarterly* **36** (3), 421-444.

Feather N., Massey H. (1976): "James Chadwick. 20 October 1891 - 24 July 1974", *Biographical Memoirs of Fellows of the Royal Society* **22**, 10-70.

Feldberg W. S. (1970): "Henry Hallett Dale, 1875-1968", *Biographical Memoirs of Fellows of the Royal Society* **16**, 77-174.

Fireside H. (1989): "Dissident Visions of the USSR: Medvedev, Sakharov & Solzhenitsyn", *Polity* **22** (2), 213-229.

Fleure H. J. (Jun 23 1948): "Scientific Papers. Professor Bernal's Scheme. Central Distribution", *The Times* Issue 51101, p5, col E.

Forman P. (1987): "Behind quantum electronics: National security as basis for physical research in the United States, 1940-1960", *Historical Studies in the Physical and Biological Sciences* **18,** 149-229.

Francis M. (1997): *Ideas and Policies under Labour, 1945-51: Building a New Britain* (Manchester: Manchester University Press).

Fulton J. F. (1931): "The Rise of the Experimental Method: Bacon and the Royal Society of London", *Yale Journal of Biology and Medicine* **3** (4), 299-320.

Garthoff R. L. (1985): *Détente and confrontation: American-Soviet relations from Nixon to Reagan* (USA: The Brookings Institution).

Garton Ash T. (Sep 25 2003): "Orwell's List", *The New York Review of Books* **50** (14), 6-12.

Gasser H. S. (1955): "Sir Henry Dale: His Influence on Science", *British Medical Journal* **1** (4926), 1359-1361.

Godwin H. (1957): "Arthur George Tansley. 1871-1955", *Biographical Memoirs of Fellows of the Royal Society* **3**, 227-246.

Godwin M. (2007): *The Skylark Rocket: British Space Science and the European Space Research Organisation 1957-1972* (Paris: Beauchesne).

Godwin M., Gregory J., Balmer B. (2009): "The Anatomy of the Brain Drain Debate, 1950s-1970s: Witness Seminar", *Contemporary British History* **23** (1), 35-60.

Goodchild J. (2013): "R. V. Jones and the Birth of Scientific Intelligence", draft thesis, University of Exeter.

Grant P. R. (1st February 1980): "Island Study," *Science* **207**, 519-520.

Gummett P. (1980) *Scientists in Whitehall* (GB: Manchester University Press).

Haldane J. B. S. (13 Jan 1934): "Science and Politics", *Nature* **133**, 65 (Letters).

Haldane J. B. S. (15 Nov 1941): "Science in the U.S.S.R.", *Nature* **148**, 598 (Letters).

Hamblin, J.D. (2006): "Hallowed Lords of the Sea: Scientific Authority and Radioactive Waste in the United States, Britain, and France", *Osiris* **21**, 209-28.

Harman, O. S. (2003): "C. D. Darlington and the British and American Reaction to Lysenko and the Soviet Conception of Science", *Journal of the History of Biology* **36** (2), 309-352.

Hauner M. (1989): "The Prague Spring – Twenty Years After", in Stone N., Strouhal E. (eds) *Czechoslovakia: Crossroads and Crises, 1918-1988* (Hong Kong: The Macmillan Press Ltd), 207-230.

Havinden M., Meredith D. (1993): *Colonialism and Development: Britain and its Tropical Colonies, 1850-1960* (London: Routledge).

Hayek F. A. (1944): *The Road to Serfdom* (London: George Routledge & Sons).

Healey D. (1989): *The Time of My Life* (London: Michael Joseph).

Heil Jr. A. L. (2003): *Voice of America: A History* (USA: Columbia University Press).

Hennessy P. (1992): *Never Again: Britain 1945-51* (London: Jonathan Cape).

Hewison R. (1981): *In Anger: British Culture in the Cold War 1945-60* (New York: Oxford University Press).

Hill A. V. (23 Dec 1933): "International Status and Obligations of Science", *Nature* **132**, 952-954 (News).

Hill A. V. (13 Jan 1934): "Science and Politics", *Nature* **133**, 65-66 (Letters).

Hodgkin A. (1979): "Edgar Douglas Adrian, Baron Adrian of Cambridge. 30 November 1889-4 August 1977", *Biographical Memoirs of Fellows of the Royal Society* **25**, 1-73.

Hodgkin D. M. C. (1980): "John Desmond Bernal. 10 May 1901-15 September 1971", *Biographical Memoirs of Fellows of the Royal Society* **26**, 16-84.

Hodgkin R. A., Wigner E. P. (1977): "Michael Polanyi. 12 March 1891 -- 22 February 1976", *Biographical Memoirs of Fellows of the Royal Society* **23**, 413-448.

Holder D. W. (1966): "William Richard Morris, First Viscount Nuffield. 1877-1963", *Biographical Memoirs of Fellows of the Royal Society* **12**, 387-404.

Holdgate M. (2003): *Penguins and Mandarins: Memories of natural and unnatural history* (UK: The Memoir Club).

Holmes K. C. (2001): "Sir John Cowdery Kendrew. 24 March 1917-23 August 1997", *Biographical Memoirs of Fellows of the Royal Society* **47**, 312-332.

Home R. W. (2003): "The Royal Society and the Empire: The Colonial and Commonwealth Fellowship Part 2. After 1847", *Notes and Records of the Royal Society of London* **57** (1), 47-84.

Howard A. (1990): *Crossman: The pursuit of power* (London: Jonathan Cape).

House of Commons Parliamentary Papers Online (Nov 1946): "British Commonwealth Scientific Official Conference, London 1946. Report of Proceedings" [Cmd. 6970].

Hughes J. (2008): "The Royal Society and the New Jerusalem", Paper for the BSHS-HSS-CSHPS Three Societies Meeting, 4-6 July 2008.

Hughes J. (2010): "Divine Right or Democracy? The Royal Society 'Revolt' of 1935", *Notes and Records of the Royal Society of London* **64**, 101-117.

Hughes J. (2012): "Doing Diaries: David Martin, the Royal Society and scientific London, 1947-1950", *Notes and Records of the Royal Society of London* **66**, 273-294.

Hughes J. (forthcoming): "A New Jerusalem for British science? Government, the Royal Society and postwar London", *British Journal for the History of Science*.

Hull A. J. (2002): "Food for Thought?: The Relations between the Royal Society Food Committees and Government, 1915-19", *Annals of Science* **59** (3), 263-298.

Huxley A. (1932): "Brave New World", in Southwick R. (ed) (1991): *Brave New World: Aldous Huxley* (Longman).

Ivor T. (30 Dec 1944): "The Royal Society: Achievement of Three Centuries", *Times Literary Supplement* Issue 2239, 630.

Janouch F. (1974): "Professor F. Janouch, of the Niels Bohr Institute, Copenhagen, writes on the plight of the Czechoslovakian academic", *Nature* **251**, 181.

Janouch F. (1975a): "Czech persecution", *Nature* **253**, 155.

Janouch F. (1975b): "Czech conditions", *Nature* **254**, 379.

Janouch F. (1975c): "Missing academicians", *Nature* **258**, 475.

Janouch F. (1977): "International contacts", *Nature* **265**, 10.

Jeffries C. (ed) (1964): *A Review of Colonial Research 1940-1960* (London: Her Majesty's Stationery Office).

Johnston A. (1974): "Introduction" in Johnston A. (ed) *Francis Bacon: The Advancement of Learning and New Atlantis* (Oxford: Clarendon Press).

Jones G. (1979): "British scientists, Lysenko and the Cold War", *Economy and Society* **8**, 26-58.

Jones G. (1988): *Science, Politics and the Cold War* (New York: Routledge).

Joravsky D. (1970): *The Lysenko Affair* (Chicago: University of Chicago Press).

Josephson P. R. (1996): *Control of Nature: Totalitarian Science and Technology* (New Jersey: Humanities Press).

Jukes T.H. (1974): "Soviet scientists", *Nature* **249**, 206.

Kaiser D. (2002): "Cold war requisitions, scientific manpower, and the production of American physicists after World War II", *Historical Studies in the Physical and Biological Sciences* **33**, 131-159.

Katz B. (1978): "Archibald Vivian Hill. 26 September 1886-3 June 1977", *Biographical Memoirs of Fellows of the Royal Society* **24**, 71-149.

Kenny M. G. (2004): "Racial Science in Social Context: John R. Baker on Eugenics, Race, and the Public Role of the Scientist", *Isis* **95**, 394-419.

Kevles D. J. (1990): "Cold war and hot physics: Science, security and the American state, 1945-56", *Historical Studies in the Physical and Biological Sciences* **20**, 239-264.

King (1946): "International Relations in Science" in Royal Society (eds) (1948): *The Royal Society Empire Scientific Conference June-July 1946 Report Vol. II* (London: Royal Society), 116-137.

Krige J. (1997): "The Politics of European Scientific Collaboration", in Krige J., Pestre D. (eds) *Science in the Twentieth Century* (Netherlands: Harwood Academic Publishers), 897-918.

Krige J. (2000): "NATO and the strengthening of Western science in the post-sputnik era", *Minerva* **34**, 81-108.

Krige J. (2006): *American Hegemony and the Postwar Reconstruction of Science in Europe* (Massachusetts Institute of Technology Press).

Krohn P. L. (1995): "Solly Zuckerman Baron Zuckerman, of Burnham Thorpe, O. M., K. C. B. 30 May 1904-1 April 1993", *Biographical Memoirs of Fellows of the Royal Society* **41**, 576-598.

Kuhn T.S. (1970): *The Structure of Scientific Revolutions* (GB: University of Chicago Press).

Kynaston D. (2008, first published 2007): *Austerity Britain 1945-51* (London: Bloomsbury).

Lee S. (2007): "Rudolf Ernst Peierls. 5 June 1907 - 19 September 1995: Elected FRS 1945", *Biographical Memoirs of Fellows of the Royal Society* **53**, 265-284.

Levich, Y. (1976): "Trying to keep in touch", *Nature* **263,** 366-367.

Levins R., Lewontin R. (1976): "The Problem of Lysenkoism", in Rose H., Rose S. (eds) *The Radicalisation of Science* (London: Macmillan Press Ltd), 32-64.

Lindley M. (3rd April 1980): "Environment: Aldabra faces problems", *Nature* **284**, 390.

Line M. B. (1998): "An information world apart: The Royal Society Scientific Information Conference of 1948 in the light of 1998", *Journal of Documentation* **54** (3), 284–292.

Loewi O. (1955): "Salute To Henry Hallett Dale", *British Medical Journal* **1** (4926), 1356-1357.

Lovell B. (1975): "Patrick Maynard Stuart Blackett, Baron Blackett, of Chelsea. 18 November 1897-13 July 1974", *Biographical Memoirs of Fellows of the Royal Society* **21**, 1-115.

Lyons H. (1968 (first published 1944)): *The Royal Society 1660-1940: A History of its Administration under its Charters* (New York: Greenwood Press).

MacLeod R. M. (1971): "The Royal Society and the Government Grant: Notes on the Administration of Scientific Research, 1849-1914", *The Historical Journal* **14** (2), 323-358.

MacLeod R. (1993): "Passages in Imperial Science: From Empire to Commonwealth", *Journal of World History* **4** (1) 117-150.

MacLeod R. (2010): "The Royal Society and the Commonwealth: Old Friendships, New Frontiers", *Notes and Records of the Royal Society of London* **64,** 137-149.

MacMillan H. (1961): "Tercentenary Banquet, Grosvenor House, Tuesday 26 July 1960. The Toast of the Royal Society proposed by the Rt. Hon Harold Macmillan, M.P., Prime Minister and First Lord of the Treasury", in *The Tercentenary Celebrations of the Royal Society of London, 1960* (London: The Royal Society), 31-35.

Martin T. (1967): "Origin of the Royal Society", *Nature* **215**, 327. [Review of Margery Purver, *The Royal Society: Concept and Creation*].

Massey H., Thompson H. (1978): "David Christie Martin. 7 October 1914-16 December 1976", *Biographical Memoirs of Fellows of the Royal Society* **24**, 390-407.

McGucken W. (1978): "On Freedom and Planning in Science: The Society for Freedom in Science, 1940-46", *Minerva* **16** (1), 42-72.

McGucken W. (1984): *Scientists, Society, and State: The Social Relations of Science Movement in Great Britain 1931-1947* (Columbus: Ohio State University Press).

Medvedev Z. A. (1969): *The Rise and Fall of T. D. Lysenko* (New York: Columbia University Press).

Medvedev R. A., Medvedev Z. A. (1971): *A Question of Madness* (London: Macmillan).

Medvedev Z. A. (1983): *Andropov* (Oxford: Basil Blackwell).

Miller D. P. (1981): "The Royal Society of London 1800-1835: A study in the cultural politics of scientific organisation", Unpublished PhD Thesis, University of Pennsylvania.

Miller D. P. (1983): "Between Hostile Camps: Sir Humphrey Davy's Presidency of the Royal Society of London, 1820-1827", *British Journal for the History of Science* **16** (1), 1-47.

Moon P. B. (1977): "George Paget Thomson. 3 May 1892 - 10 September 1975", *Biographical Memoirs of Fellows of the Royal Society* **23**, 529-556.

Morgan J. (ed) (1981): *The Backbench Diaries of Richard Crossman* (USA: Hamish Hamilton and Jonathan Cape).

Morrison H. et al (1949): "Anniversary Dinner 1948", *Notes and Records of the Royal Society of London* **6** (2), 82-103.

Moumou M. (2009): "Assessing the Impact of Forced Displacement on Communities in Small Island States: The Case of the Chagossian Tragedy," Unpublished Masters thesis (Department of Social Anthropology, University of Tromsø; School of Global Studies, University of Gothenburg; School of Business and Social Sciences, Roehampton University).

Muddiman D. (2003): "Red information scientist: the information career of J. D. Bernal", *Journal of Documentation* **59** (4), 387-409.

Muddiman D. (2007): "Science, Industry and the State: Scientific and Technical Information in Early-Twentieth-Century Britain" in: Black A., Muddiman D., Plant H. (ed) *The Early Information Society: Information Management in Britain before the Computer* (GB: Ashgate), 55-78.

Mueller-Dombois D. (1992): "F. Raymond Fosberg: An Appreciation!" Pacific *Science* **46**, 107-110.

Mullins P., Jacobs S. (2006): "T. S. Eliot's Idea of the Clerisy, and its Discussion by Karl Mannheim and Michael Polanyi in the Context of J. H. Oldham's Moot", *Journal of Classical Sociology* **6,** 147-156.

Needell A. A. (2000): *Science, Cold War, and the American State: Lloyd V. Berkner and the Balance of Professional Ideals* (Amsterdam: Harwood Academic Publishers).

Neuberger A. (1990): "Arnold Ashley Miles. 20 March 1904-11 February 1988", *Biographical Memoirs of Fellows of the Royal Society* **35**, 304-326.

Newell H. E., Townsend J. W. (1959): "IGY Conference in Moscow", *Science*, New Series **129** (3341), 79-84.

Newitt D. M. (1960): "Alfred Charles Glyn Egerton. 1886-1959", *Biographical Memoirs of Fellows of the Royal Society* **6**, 39-64.

Nye M. J. (2004): *Blackett: Physics, War, and Politics in the Twentieth Century* (USA: Harvard University Press).

Nye M. J. (2007): "Manchester friends at odds: Michael Polanyi, P. M. S. Blackett and the scientist as political speaker", in: Pickstone J. V. (ed) *The History of Science and Technology in the North West: Manchester Region History Review Volume 18* (Manchester Centre for Regional History), 106-129.

Oliphant M.L.E., Penney M. (1968): "John Douglas Cockcroft. 1897-1967", *Biographical Memoirs of Fellows of the Royal Society* **14**, 139-188.

Orwell G. (1945): "Animal Farm" in: Carter R. (ed) (1999) *George Orwell: Animal Farm* (London: Penguin Books Ltd).

Orwell G. (1949): "1984" in: Davison P. (ed) (2008): *George Orwell: 1984* (London: Penguin Books Ltd.).

Paton W. D. M. (1976): "Sir Henry Dale (1875-1968). Some Letters and Papers", *Notes and Records of the Royal Society of London* **30** (2), 231-248.

Paul D. B. (1983): "A War on Two Fronts: J. B. S. Haldane and the Response to Lysenkoism in Britain", *Journal of the History of Biology* **16** (1), 1-37.

Peleska B. (1974): Untitled, *Nature* **250**, 97.

Pilger J. (2006): *Freedom Next Time* (Great Britain: Bantam Press).

Pirie N. W. (1966): "John Burdon Sanderson Haldane. 1892-1964", *Biographical Memoirs of Fellows of the Royal Society* **12**, 218-249.

Pockley P. (1974): "First Australian-Soviet science agreement", *Nature* **248**, 275.

Polanyi M. (June 1945): *Rights and Duties of Science: Occasional Pamphlet No. 2* (Oxford: Society for Freedom in Science). Dated 1939 without the latter section 'Truth or Propaganda' in Polanyi M. (1975): *The Contempt of Freedom: The Russian Experiment and After* (New York: Arno Press).

Polanyi M. (1962): "The Republic of Science: Its political and economic theory", *Minerva* **1** (1), 54–73.

Polanyi M. (1975): *The Contempt of Freedom: The Russian Experiment and After* (New York: Arno Press). Reprint of 1940 edition published by Watts, London.

Pounds K. (2010): "The Royal Society's formative role in UK space research", *Notes and Records of the Royal Society* **64**, 65-76.

Purver M. (1967): *The Royal Society: Concept and Creation* (London: Routledge and Kegan Paul Ltd). Complete reference from Martin T. (1967): "Origin of the Royal Society", *Nature* **215**, 327.

Richards R. (1985): "Harold Warris Thompson. 15 February 1908-31 December 1983", *Biographical Memoirs of Fellows of the Royal Society* **31**, 572-610.

Richardson G. (2002): "A Norfolk Network within the Royal Society", *Notes and Records of the Royal Society of London* **56** (1), 27-39.

Ritchie A. D. (28 Dec 1944): "The Royal Society: Three Centuries of Science", *The Manchester Guardian.*

Ritschel D. (1997): *The Politics of Planning: The Debate on Economic Planning in Britain in the 1930s* (GB: Oxford University Press).

Robinson R. (1949a): "Address of the President Sir Robert Robinson, at the Anniversary Meeting, 30 November 1948", *Proceedings of the Royal Society of London A* **196** (1044), v-xviii.

Robinson R. (1949b): "Anniversary Dinner 1948", *Notes and Records of the Royal Society of London* **6** (2), 82-103.

Roll-Hansen N. (1985): "A new perspective on Lysenko?" *Annals of Science* **42** (3), 261-278.

Rose H., Rose S. (1969): *Science and Society* (GB: Allen Lane The Penguin Press).

Rowlinson J. S. (1992): "The Development of the Society, 1940-1989", in Rowlinson J. S., Robinson, N. H. (eds) *The Record of the Royal Society of London: supplement to the fourth edition for the years 1940-1989* (Great Britain: Royal Society), 1-38.

Royal Society (1948a): *The Royal Society Empire Scientific Conference June-July 1946 Report Vol. I* (London: Royal Society).

Royal Society (1948b): *The Royal Society Empire Scientific Conference June-July 1946 Report Vol. II* (London: Royal Society).

Royal Society (1948c): *The Royal Society Scientific Information Conference 21 June – 2 July 1948: Report and Papers Submitted* (London: The Royal Society).

Salomon J. (1971): "The internationale of science", *Social Studies of Science* **1**, 23-42.

Saunders F. S. (1999): *Who Paid the Piper? The CIA and the Cultural Cold War* (Great Britain: Granta Books).

Schaffer S., Shapin S. (1985): *Leviathan and the Air-pump: Hobbes, Boyle, and the experimental life* (USA: Princeton University Press).

Shapin S. (1996): *The Scientific Revolution* (USA: University of Chicago Press).

Sharp D. (ed) (2001): "The Zuckerman Archive: A General Guide" (University of East Anglia).

Smith T. C. (1996): *No Asylum: State Psychiatric Repression in the Former USSR* (GB: MacMillan Press Ltd).

Spalding D. B. (1972): "Soviet Scientists", *Nature* **240**, 497.

Steele J., Abraham E. (1983): *Andropov in Power: From Komsomol to Kremlin* (Oxford: Martin Robertson).

Stimson D. (1949): *Scientists and Amateurs: A History of the Royal Society* (London: Sigma Books Limited).

Stoddart D. R. (1968a): "The Aldabra Affair", *Biological Conservation* **1**, 63-69.

Stoddart D. R. (1968b): "Catastrophic human interference with coral atoll ecosystems", *Geography* **53**, 25-40.

Stoddart D. R. (1971): "Settlement, Development and Conservation of Aldabra", *Phil. Trans. R. Soc. Lond. B* **260**, 611-628.

Stoddart D. R. (1979a): "Aldabra and the Aldabra Research Station", *Phil. Trans. R. Soc. Lond. B* **286**, 3-10.

Stoddart D. R. (1979b): *The Terrestrial Ecology of Aldabra* (London: The Royal Society).

Stoddart D. R. (2001): "Be of good cheer, my weary readers, for I have espied land", *Atoll Research Bulletin* Golden Issue **494**, Part 12.

Tansey E. M. (1995a): "First W.D.M. Paton Memorial Lecture. An F4-vescent episode: Sir Henry Dale's laboratory 1919-1942", *British Journal of Pharmacology* **115**, 1339-1345.

Tansey E. M. (1995b): "What's in a Name? Henry Dale and Adrenaline, 1906", *Medical History* **39**, 459-476.

Tansey E. M. (2006): "Henry Dale and the discovery of acetylcholine", *C. R. Biologies* **329**, 419-425.

Tansley (25 Jul 1942): "The Values of Science to Humanity", *Nature* **150** (3795), 104-110.

Tilley H. (2011): *Africa as a Living Laboratory: Empire, Development, and the Problem of Scientific Knowledge* (Chicago: University of Chicago Press).

Todd A. (1980): "Address of the President Lord Todd, O.M. at the Anniversary Meeting, 1 December 1980", *Proceedings of the Royal Society of London. Series B, Biological Sciences* **211** (1182), 1-13.

Tomlinson J. (1998): "Why so Austere? The British Welfare State of the 1940s", *Journal of Social Policy* **27** (1), 63-77.

Turchetti S., Naylor A., Dean K., Siegert M. (2008): "On thick ice: scientific internationalism and Antarctic affairs, 1957–1980", *History and Technology* **24** (4), 351-376.

Turchetti S. (2012): *The Pontecorvo Affair: A Cold War Defection and Nuclear Physics* (Chicago: University of Chicago Press).

Vaculik L. (27 June 1968): "Two Thousand Words to Workers, Farmers, Scientists, Artists, and Everyone" in Stokes G. (ed) (1991): *From Stalinism to Pluralism: A Documentary History of Eastern Europe since 1945* (USA: Oxford University Press), 126-130.

Vickery B. (1998): "The Royal Society scientific information conference of 1948", *Journal of Documentation* **54** (3), 281-283.

Walsh J. (18th August 1967): "Aldabra: Biology May Lose A Unique Island Ecosystem", *Science* **157**, 788-790.

Walsh J. (1st December 1967): "Aldabra: Reprieve for an Island", *Science* **158**, 1164.

Weaver W. (November 1945): *Free Science: Occasional Pamphlet No. 3* (Oxford: Society for Freedom in Science).

Webster C. (1967): "The Origins of the Royal Society", *History of Science* **6**, 106-128. [Review of Margery Purver, *The Royal Society: Concept and Creation*].

Werskey G. (1988, first published 1978): *The Visible College: A Collective Biography of British Scientists and Socialists of the 1930s* (London: Free Association Books).

Wigner E. P., Hodgkin R. A. (1977): "Michael Polanyi. 12 March 1891 – 22 February1976", *Biographical Memoirs of Fellows of the Royal Society* **23**, 413-448.

Willmer E. N., Brunet P. C. J. (1985): "John Randal Baker. 23 October 1900 – 8 June 1984", *Biographical Memoirs of Fellows of the Royal Society* **31**, 32-63.

Wilson T. D. (2000): "Human Information Behavior", *Informing Science* **3** (2), 49-55.

Worboys M. (1996): "British Colonial Science Policy, 1918-1939", in Petitjean P. (ed) Colonial Sciences: Researchers and Institution (Paris). Series: 20th Century Sciences: Beyond the Metropolis.

Worboys M. (1979): *Science and British Colonial Imperialism, 1895-1940*, Unpublished DPhil Thesis, University of Sussex.

Young J. W. (1993): *The Longman Companion to Cold War and Détente 1941-91* (New York: Longman).

Young J. W. (2003a): *The Labour Governments 1964-70 Volume 2: International Policy* (GB: Manchester University Press).

Young J. W. (2003b): "Technological Cooperation in Wilson's Strategy for EEC Entry", in Daddow O. J. (ed) *Harold Wilson and European Integration: Britain's Second Application to Join the EEC* (London: Frank Cass), 95-114.

Ziman J. M. (1968): "Letter to an Imaginary Soviet Scientist", *Nature* **217**, 123-4.

Ziman J. M. (1973a): "A Second Letter to an Imaginary Soviet Scientist", *Nature* **243**, 489.

Ziman J. M. (1973b): "The Problem of Soviet Scientists", *Nature* **246**, 322-323.

Ziman J. M. (1974, first published 1968): *Public Knowledge: The Social Dimension of Science* (Great Britain: Cambridge University Press).

Archival Material

**Annals of Communism (AC)**

Andrei Sakharov KGB File: http://www.yale.edu/annals/sakharov/

[e013.txt]: 'Andropov to the Central Committee (20 April 1970)' http://www.yale.edu/annals/sakharov/sakharov_english_txt/e013.txt accessed 02/08/2012.

[e024.txt] 12/02/1971 http://www.yale.edu/annals/sakharov/sakharov_english_txt/e024.txt accessed 26/01/2010

[e028.txt] 17/04/1971 http://www.yale.edu/annals/sakharov/sakharov_english_txt/e028.txt accessed 26/01/2010

[e064.txt] 28/09/1973 http://www.yale.edu/annals/sakharov/sakharov_english_txt/e064.txt accessed 26/01/2010

[e072.txt] 25/01/1974 http://www.yale.edu/annals/sakharov/sakharov_english_txt/e072.txt accessed 02/08/2012

[r072.txt] 21/12/1973
http://www.yale.edu/annals/sakharov/sakharov_russian_txt/r072.txt
accessed 26/01/2010

**Papers acquired from George Hemmen's personal archives (GH)**

Anon. (27 June 1957): "The International Geophysical Year" (The Royal Society).

**University of Glasgow (GL)**

*Papers of Edward Hindle*

DC75/D.2 Correspondence with J. R. Baker concerning Society for Freedom in Science, 1950-1951

**Bodleian Library, University of Oxford (OX)**

*Papers of John Randal Baker*

BAKER MS.Eng.misc.c.920/ F.44

MS.Eng.misc.c.920/ F.52 Correspondence – H.G. Wells

*Papers of Charles Alfred Coulson*

MS COULSON 96/ C.33.6 Correspondence – Polanyi

*Papers of John Cowdery Kendrew*

MS.Eng.c.2606/0.18 Re: Medvedev Z. A., 1970

*Papers of Rudolf Ernst Peierls*

MS.Eng.Misc.b.212 Correspondence – Polanyi

**Royal Society (RS)**

*Council Minutes*

vol 16 (1940-45) 14/12/1944 pp334-360 Appendix A: "Report on the needs of research in the fundamental sciences after the war".

vol 16 (1940-45) 15/04/1943, pp155-164 Appendix A: "Report of the British Commonwealth Science Committee".

Royal Society Minutes of Council 1940-45 vol. 16 (London: The Royal Society)

Royal Society Minutes of Council 1945-48 vol. 17 (London: The Royal Society)

Royal Society Minutes of Council 1948-53 vol. 18 (London: The Royal Society)

Royal Society Minutes of Council 1953-57 vol. 19 (London: The Royal Society)

Royal Society Minutes of Council 1957-61 vol. 20 (London: The Royal Society)

Royal Society Minutes of Council 1961-64 vol. 21 (London: The Royal Society)

Royal Society Minutes of Council 1964-67 vol. 22 (London: The Royal Society)

Royal Society Minutes of Council 1967-70 vol. 23 (London: The Royal Society)

Royal Society Minutes of Council 1970-73 vol. 24 (London: The Royal Society)

Royal Society Minutes of Council 1973-76 vol. 25 (London: The Royal Society)

*Officers' Minutes (OM)*

[OM/ 6 (61)] 'Scientific Progress and Foreign Policy: Note by D. C. Martin'

[OM/ 8(66)] 'Position of the Society in relation to Government arrangements for international scientific affairs: report by the Deputy Executive Secretary of meeting held on 7 January 1966 in Sir Harrie Massey's Office.'

[OM/ 14(66)] 'Patterns of international scientific interchange with particular reference to Western Europe.'

[OM/ 20(66)] 'The Ford Foundation: Notes from the 1964 Annual Report.'

[OM/ 22(66)] 'Scientific Interchange with Western Europe: Notes for discussion with Mr Joe Slater, 14 February, 1966', 11/02/1966.

[OM/ 25(66)] 'CSP Working Party on International Scientific Relations: Notes on the meeting held on 18 February 1966', Keay, 21/02/1966.

[OM/ 59(66)] 'International Scientific Relations,' 8/6/1966 + attached: 'Proposed European Science Fellowship Programme, Note by the Department of Education and Science', DES, 03/06/1966.

[OM/ 4 (67)] 'Royal Society European Programme', Thompson, 03/01/1967.

[OM/ 24 (68)] 'Notes on the discussion between representatives of the Royal Society and the Accademia Nazionale dei Lincei, 11 January 1968', Keay, 15/02/1968.

[OM 15(68)] 'Scientific Relations between Italy and the United Kingdom: Notes on a discussion in the Royal Society', 07/02/1968.

[OM/ 110 (69)] 'European Scientific Co-operation: Notes on a meeting held on 2 December 1969', 10/12/1969.

*Council Papers*

[C/178(66)] 'Recommendations to Council from the Southern Zone Research Committee Meeting 8 December 1966' (13th December 1966).

*Southern Zone Research Committee (SZRC)*

[SZR 2a(67)] 'Aldabra Meeting: Report' (Report of meeting on 10/01/1967)

[SZR/21(66)] duplicated as [C/170(66)] 'Report on the Conservation of Aldabra Southwest Indian Ocean by Dr. D. R. Stoddart, Department of Geography, Cambridge' (undated).

*Publications/ Library*

RS Publications [Box 1957]: Royal Society (1958): *British National Committee for the IGY: UK progress report on IGY observations* (London: Royal Society)

RS Publications [Box 1960]: Royal Society (1958): *Year Book of the Royal Society 1958* (London: Royal Society).

RS Publications [Box 1979]: Royal Society of London (1979): "The Royal Society Commonwealth Bursaries Scheme: A survey of twenty-five years operation, 1954-1978", (London: The Royal Society).

Fleming C. A. (1963): "Royal Society of New Zealand Presidential Address: Promotion of science in a Commonwealth democracy".

*Papers of Patrick Maynard Stuart Blackett (PB)*

| | |
|---|---|
| PB/8/6/7 [H.12] | Papers and talks on science and society by others, collected by Blackett, many annotated by him. c.1943-1945 |
| PB/9/1/133 | Correspondence with John Michael Ziman, 1974 |

*Papers of Henry Hallett Dale (HD)*

| | |
|---|---|
| HD/6/8/6/6 [93HD.6.2] | Correspondence H. G. Lyons, 1938-1945 |
| HD/14/36 [93HD.11.1] | Society for Freedom in Science, 1941-1963 |
| HD/16/29 [93HD.15.8] | Society for Individual Freedom, 1955-1965 |
| HD/14/17 [93HD.51.13] | Fellowship for Freedom in Medicine, 1948-1956 |

*Papers of Howard Florey (HF)*

| | |
|---|---|
| HF 1/17/2/16 | Carlton House Terrace, 1961-7 |

*Papers of Archibald Vivian Hill*

| | |
|---|---|
| MDA/A/27/18 [MDA.A7.18] | Correspondence of A V Hill, Pickard-Cambridge - M Polanyi, 1940s |
| MDA/A/28/25 [MDA.A8.25] | Correspondence of A V Hill, Arthur George Tansley - P R Tingley, 1945 |

*Papers of Harold Thompson (HWT)*

| | |
|---|---|
| HWT 9 | Department for Education and Science, 1967-70 |

| | |
|---|---|
| HWT 20 | Western Europe and Israel, 1965-81 |
| HWT 33 | H W Thompson's personal correspondence as Foreign Secretary, 1965-71 |
| HWT 34 | Anglo-Soviet Consultative Committee on Bilateral Relations (Kosygin Committee), 1967-71 |
| HWT 36 | Council for Scientific Policy, 1965-71 |

**Smithsonian Institution Archives, Washington DC (SI)**

*Papers of F. Raymond Fosberg (intermingled with correspondence of close friend and colleague Marie-Helene Sachet)*

Accession number 94-043

Box 2

Correspondence – David R. Stoddart, 1968 (2 folders)

Correspondence – David R. Stoddart, January-July 1967

Correspondence – David R. Stoddart, September-December 1967

**The National Archives (TNA)**

| | |
|---|---|
| *AIR 2* | *Air Ministry and Ministry of Defence* |
| /16849 | Aldabra Island (Seychelles): survey prior to proposed construction of airfield |
| *AIR 20* | *Air Ministry and Ministry of Defence: Papers accumulated by the Air Historical Branch* |
| /11804 | Aldabra Island, Indian Ocean: proposed staging post |
| *AIR 74* | *Air Ministry: Directorate General of Works: Specimen Area Office Works* |
| /7 | Aldabra, Seychelles: feasibility of airfield construction |
| *AVIA 42* | *Ministry of Supply and successors: British Central Scientific Office and British Commonwealth Scientific Office: Registered Files* |
| /79 | Correspondence regarding BCSO history (1944-47) |
| *CAB 124* | *Offices of the Minister of Reconstruction, Lord President of the Council and Minister for Science* |
| /2592 | Briefs for the committee on assistance in the field of scientific research to commonwealth and foreign countries (1958) |

| | |
|---|---|
| /2727 | Science and foreign policy: FO interest in UK scientific effort (1963-64) |
| *CAB 148* | *Defence and Oversea Policy Committees and Sub-committees: Minutes and Papers* |
| /33 | Defence and Oversea Policy Committee (items 57-58) |
| *CAB 168* | *Records of Chief Scientific Adviser, Solly Zuckerman* |
| /239 | Construction of UK/US communication centre and airstrip on Aldabra |
| *CO 968* | *Colonial Office and Commonwealth Office: Defence Department and successors* |
| /870 | Aldabra Island |
| *CO 1027* | *Colonial Office: Information Department* |
| /659 | BBC relay station at Aldabra |
| /660 | BBC relay station at Aldabra |
| *FCO 16* | *Commonwealth Office: Defence Department* |
| /227 | Strategic planning: Aldabra |
| /228 | Strategic planning: Aldabra |
| *FCO 32* | *Commonwealth Office and Foreign and Commonwealth Office* |
| /114 | Negotiations with US for sharing costs of the airfield on Aldabra |
| /115 | Negotiations with US for sharing costs of the airfield on Aldabra |
| /126 | Establishment of a research station on Aldabra |
| *FCO 55* | *Foreign and Commonwealth Office. Cultural, Development and Scientific Relations Departments. (Scientific Relations Department FO 1965-68/ Scientific Relations Department FCO 1968/ Science and Technology Department FCO 1968-77)* |
| /7 | Foreign policy and relations with learned societies, 1967 |
| /40 | Importance of East West relations in science, 1968 |
| /48 | Technological collaboration with Europe and the UK entry into EEC, 1968 |
| /49 | Technological collaboration with Europe and the UK entry into EEC, 1968 |

| | |
|---|---|
| /50 | Brief on technological co-operation with the EEC, 1967 |
| /189 | European technological co-operation: Marechal Group, later Aigrain Group; working party on scientific and technological research policy of the EEC's Medium Term Economic Policy Committee, 1968-69 |
| /233 | Steering brief for Mr. Mulley's meeting with the Royal Society, 1968-69 |
| /234 | Steering brief for Mr. Mulley's meeting with the Royal Society, 1969 |
| /381 | Meetings with Royal Society to discuss the human environment, 1970 |
| /505 | Scientific Counsellors attached to UK Embassies overseas, 1970-71 |
| /639 | Minutes of meeting between representatives of the Foreign and Commonwealth Office and Royal Society, 12 February 1971, 1971 |
| /917 | Relations between Foreign and Commonwealth Office and Royal Society, 1972 |

| | |
|---|---|
| *FCO 83* | *Foreign and Commonwealth Office: Atlantic and Indian Ocean Department* |
| /7 | Policy of United Kingdom on Aldabra Island |

| | |
|---|---|
| *FO 1110* | *Information Research Department, Foreign Office* |
| /381 | Scientific subjects; translations from Soviet press and other material (1951) |
| /521 | World Peace Movement (WPC) and World Federation of Scientific Workers (WFSW): delegates to meetings in UK: British Trade Union delegation visit to Hungary (1952) |
| /759 | Translations of scientific material from the Soviet press: distribution and related correspondence (1955) |
| /1054 | Commonwealth countries: distribution and usage of IRD material in various Commonwealth countries (1957) |
| /1080 | Soviet scientific propaganda (1958) |

| | |
|---|---|
| *FT 3* | *Records of the Nature Conservancy, the Nature Conservancy Council and English Nature: Headquarters Records* |
| /616 | Aldabra Island: report on giant tortoises |
| /617 | Aldabra Island |

| | |
|---|---|
| *HF 19* | *Ministry of Technology, Minister's Office: Minutes and Notes of meetings* |
| /2 | Minister's weekly meetings, 1966-67 |
| *KV2* | *Records of the Security Service, Communists and suspected Communists including Russian and Communist sympathisers* |
| /3219 | Blackett. Patrick Maynard Stuart |
| | *Full series: /3217-3220 covering 1931-1959* |
| /3228-3239 | Burhop. Dr. Eric Henry Stoneley (1937-58) |
| /1814 | Bernal, John Desmond |
| | *Full series: /1811-1814 covering 1931-1953* |
| *PREM* | *Prime Minister's Office* |
| 3/139/7 | Visit to Soviet Union by Professors Bernal, Mott and Norrish June 1945 |
| 13/1387 | DEFENCE. British Indian Ocean Territory: construction of an airfield on Aldabra and compensation agreements with Mauritius |

**University of East Anglia (UEA)**

*Papers of Solly Zuckerman*

| | |
|---|---|
| SZ/CSA/58 | East of Suez Policy – C. Mayhew, 1966 |
| SZ/CSA/170 | Aldabra, 1967 |

**University of Kent, British Cartoon Archive**

Image 12365 Langdon D. (26th November 1967) *Sunday Mirror*

Internet resources

American Heritage Dictionary: http://dictionary.reference.com

Amnesty International, *Chronicle of Current Events*: http://www.amnesty.org/en/ai_search?page=2&title=chronicle%20of%20current%20events accessed 31/03/2013

Directory of British Diplomats, 1900-2011, available at: http://www.gulabin.com/britishdiplomats/pdf/BRIT%20DIPS%201900-2011.pdf accessed 31/03/2013

Hansard: http://www.parliament.uk/business/publications/hansard/commons

HC Debate 25th October 1967: "Island of Aldabra (Staging Post)", vol. 751 cc1829-52.

HC Debate 22nd November 1967, vol. 754 cc1341.

HC Debate 27th July 1967: 'Defence' paragraph 1108, vol. 751 cc984-1120.

Monk R. "Russell, Bertrand Arthur William, third Earl Russell (1872-1970)", *Oxford Dictionary of National Biography*.

Oxford English Dictionary www.oed.com

Richards R. "Thompson, Sir Harold Warris (1908–1983), physical chemist", *Oxford Dictionary of National Biography*.

Royalsociety.org

Statutes of the Royal Society 11/10/2012 http://royalsociety.org/uploadedFiles/Royal_Society_Content/about-us/governance/Statutes.pdf

http://royalsociety.org/about-us/governance/executive-director/

http://royalsociety.org/about-us/governance/council/

http://royalsociety.org/about-us/fellowship/election/

http://royalsociety.org/about-us/fellowship/former-statute-12/

http://royalsociety.org/about-us/fellowship/royal-fellows/

all accessed 31/03/2013

"The British Civil Service: Permanent Secretaries and other senior appointment since 1900", available at: http://www.gulabin.com/britishcivilservants/pdf/Senior%20Civil%20Servants.pdf all accessed 31/03/2013

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