

## PRESIDENTIAL ADDRESS†

### Charles Singer and the early years of the British Society for the History of Science

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Presidential addresses offer an opportunity to reflect on the history of our subject and where the history of science stands in our own day. Such reflections are particularly appropriate with the fiftieth anniversary of the founding of the British Society for the History of Science (BSHS) which is marked in 1997. Some may consider that looking back over our past is either an unacceptable luxury or an occasion for the kind of celebration that can all too easily degenerate into hagiography and an excuse to rake over the past in a thoroughly uncritical manner.<sup>1</sup> This address – and I trust the events of 1997 – will try to avoid such excesses and instead contribute to the historiography of our subject.

This paper contains an all-too-sketchy account of the role of the first president, Charles Singer (1876–1960), in the founding of the BSHS. My main theme is Singer's commitment to a form of internationalism that appeared so necessary and so appealing after Europe had been shattered by Fascism and a devastating war. I shall be exploring the ways in which his background and the political events of the 1930s and 1940s shaped his vision for the history of science in the post-war era and especially his concern to found a specifically *British* society that would, through encouraging study of the history of science, contribute to international peace and stability. I should make clear at the outset that by focusing on Singer I will doubtless undervalue the roles of the many other people who were active in the early years of this Society. There are, without doubt, other contending narratives and ones that I hope will soon be heard. I also approach this subject with some trepidation in

† *Editor's note.* The address was delivered on 14 July 1995 and publication has been delayed, with the author's permission, in order to appear in this special number.

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For permission to consult and quote from manuscripts I would like to record my appreciation to the Wellcome Trustees (Singer Papers, Contemporary Medical Archives, Wellcome Institute for the History of Medicine, London), the Society for the Protection of Science and Learning, the Bodleian Library, Oxford (SPSL Papers), the Wiener Library and the Science Museum Library, London (BSHS Archives). To Jack Morrell, A. Rupert Hall and Paul Weindling I am particularly indebted for their generosity in providing me with information and advice. The helpful comments of members of the audience and of my colleagues at Leeds are greatly appreciated.

<sup>1</sup> Paul Forman, 'Independence, not transcendence, for the historian', *Isis* (1991), **82**, 71–86. On the role of anniversaries see Pnina Abir-Am, 'An historical ethnography of a scientific anniversary in molecular biology: the first protein X-ray photograph (1984, 1934)', *Social Epistemology* (1992), **6**, 323–54.

the realization that some of my readers will have known Singer and may themselves have been actors in the events I am discussing.

At the outset some chronology is required. Organizations in Britain devoted to the history of science long predate the founding of the BSHS in 1947. Among the early attempts was a short-lived Historical Society of Science orchestrated by the antiquarian James Orchard Halliwell in 1840, which attracted many prominent scientists such as Baden Powell, Augustus de Morgan and Michael Faraday.<sup>2</sup> A second example is the Gilbert Club organized by Silvanus Phillips Thompson at the turn of this century.<sup>3</sup> Interest in the history of science increased prior to the Second World War and networks of practitioners began to form especially around Oxford and Cambridge Universities and University College London, the three main centres for teaching the history of science and medicine. Although the more specialized Newcomen Society and the Society for the History of Alchemy and Chemistry date from the inter-war period, there was no broad-based formal organization of historians of science in Britain prior to 1947. An attempt had been made shortly before the outbreak of hostilities to form a national history of science society, but we have to wait until the mid-1940s before firm steps were taken to implement this plan.

However, before this period many British historians of science saw themselves principally as working within a worldwide network of scholars. Such international connections had been considerably advanced by the founding of *Isis* in 1913 by George Sarton. A number of British scholars were likewise active in the History of Science Society, founded in the United States in 1924. The exclusive and prestigious Académie Internationale d'Histoire des Sciences, founded three years later, subsequently became the main locus for international co-operation and the organization responsible for organizing international congresses. Like the Paris-based Académie des Sciences and the Royal Society of London, new recruits were selected by existing members of the Académie. There were three grades of membership, the most important being the 'membres effectifs' to which only fifty-one scholars had been elected prior to the outbreak of war.

#### CHARLES SINGER

Singer<sup>4</sup> was the son of Rabbi Simeon Singer (1848–1906), a leading and highly respected member of the Anglo-Jewish community who edited the authorized prayer book for the

2 H. W. Dickinson, 'J. O. Halliwell and the Historical Society of Science (London, 1841)', *Isis* (1932), **18**, 127–32. The Society's papers are in Edinburgh University Library, MS LOA 3/40. See also *A Collection of Letters Illustrative of the Progress of Science in England from the Reign of Queen Elizabeth to that of Charles the Second* (ed. J. O. Halliwell), London, 1941.

3 Jane Smeal Thompson and Helen G. Thompson, *Silvanus Phillips Thompson. His Life and Letters*, London, 1920, 228. The Gilbert Club produced *William Gilbert, On the Magnet, Magnetick Bodies also, and on the Great Magnet of the Earth, etc*, London, 1900.

4 Much useful biographical information is to be found in Julia Sheppard, 'Illustrations from the Wellcome Institute Library. Charles Joseph Singer, DM, DLitt, DSc, FRCP (1876–1960): papers in the Contemporary Medical Archives Centre', *Medical History* (1987), **31**, 466–71, and in the obituaries by A. Rupert Hall (*Isis* (1961), **51**, 558–60), E. Ashworth Underwood (*History of Medicine* (1960), **4**, 353–8) and Edwin Clarke (*Journal of the History of Medicine* (1961), **16**, 411–19). A bibliography of Singer's publications to 1953 is contained in *Science, Medicine and History* (ed. E. Ashworth Underwood), 2 vols., Oxford, 1953, ii, 555–81.

United Synagogue, which is affectionally known as ‘Singer’s Prayer Book’ (1890).<sup>5</sup> The United Hebrew Congregations of the British Empire – to give the organization its full name – was the somewhat conservative bastion of Anglo-Jewry; perhaps the Jewish equivalent of the Anglican Church. It needs to be distinguished from the Sephardic communities, of Spanish and Portuguese background, and also from the Haredim, the insular orthodox sects that originated principally in Poland, each with its own spiritual leader. To locate Singer firmly within the traditions of Anglo-Jewry it is important to note that both his parents were born in England and that his father’s prayer book exemplifies the social positioning of the United Synagogue since it contains an English translation facing each passage of Hebrew liturgy. Indeed, the elder Singer has been characterized as ‘the ideal Anglo-Jewish minister’.<sup>6</sup> Singer once described his father as an observant and deeply religious man but not an ‘orthodox’ Jew, orthodoxy evidently being associated in his mind with insularity and bigotry.<sup>7</sup> Yet Singer himself parted from the United Synagogue and joined his close friend Claude Montefiore in helping to found the Liberal movement within British Jewry. He was also one of the founder members of the Liberal Jewish Synagogue in St John’s Wood, London (1911), on whose Council he served.<sup>8</sup> This move to the Liberal and Progressive Movement is significant since he thereby encompassed an anti-traditionalist form of Judaism largely imported from America. According to one commentator ‘Liberal Judaism was the one living and enduring form of the religion possible to people brought up in English institutions and Western culture.’<sup>9</sup> People, I would add, just like Charles Singer (Figure 1).

In an article published in 1938 Singer explained his religious position: ‘I am not what is called a “practising” Jew. In fact, the rites and ceremonies of Judaism appeal to me very little and some are, I must confess, even distasteful to me.’ He was at pains to attack traditional Jewish practices, such as the dietary laws (kashrut), which he considered irrational and calculated to ‘create unnecessary and harmful separation between man and man’.<sup>10</sup> Elsewhere he commented that ‘Judaism can survive with a minimum of expressed or formal faith.’<sup>11</sup> Indeed, having purchased an attractive house in rural Cornwall in 1934 he lived increasingly away from London and was therefore geographically isolated from Jewish communal institutions. However, he readily admitted that he considered himself Jewish in terms of his historical and family identity and affirmed his commitment to specific Jewish values, especially those of charity and social justice, which he believed were universally applicable.<sup>12</sup> It is also clear that although he championed science and

5 *The Authorised Daily Prayer Book of the United Hebrew Congregations of the British Empire, with a New Translation by the Late Rev. S. Singer*, 12th edn, London, 1924. The print run including the 11th (1920) edition was 150,000 copies.

6 V. D. Lipman, *A History of the Jews in Britain since 1858*, London, 1990, 256.

7 C. Singer, *The Christian Failure*, London, 1943, 107–8.

8 E. Kessler (ed.), *An English Jew. The Life and Writings of Claude Montefiore* London, 1989, 12. Singer travelled with Montefiore to America to hire Rabbi Israel Mattuck to serve this new Liberal congregation. See also Anne J. Kershen and Jonathan A. Romain, *Tradition and Change. A History of Reform Judaism in Britain 1840–1995*, London, 1995, 102–6.

9 Cited in Chaim Bermant, *Troubled Eden. An Anatomy of British Jewry*, London, 1969, 235.

10 C. Singer, ‘What Judaism means to me’, *Liberal Jewish Monthly* (1938), 8, 71–4, on 73.

11 Singer, *op. cit.* (7), 117.

12 Singer, *op. cit.* (10).



**Figure 1.** Charles Joseph Singer in his study. Photograph taken by E. Ashworth Underwood at Kilmarth, Singer's house in Cornwall, 1952. Courtesy of the Wellcome Institute Library, London.

recognized its profound influence in shaping culture, Singer rejected the kinds of reductive scientism associated both with Comte's 'Religion of Humanity' and with Marxist materialism, believing that these forms of scientism trivialized the human condition. Instead he insisted that some vital principle exists in each of us that is not reducible to matter. In some of his writings he also stressed the paramount importance of religion in giving purpose to people's lives – a view that he appears to have abandoned after his wartime experiences.<sup>13</sup>

Singer received his secular education at the City of London School and Magdalen College, Oxford, where he read zoology. Trained in medicine at St Mary's Hospital, London, his early medical career included an expedition to Abyssinia, research on cancer and overseas service in the Royal Army Medical Corps during the First World War. His

<sup>13</sup> Singer, *op. cit.* (7), 62–6. On scientism see Casper Hakfoort, 'Science deified. Wilhelm Ostwald's energeticist world-view and the history of scientism', *Annals of Science* (1992), 49, 525–44. Singer seems to have been greatly troubled by the question of human purpose and subsequently appears to have accepted the inadequacy of religion to define the purpose of life. See the MS text of his 1948 presidential address to BSMS which includes the following attached notes: 'I cannot see any system of PHILOSOPHY or RELIGION has given any inkling of purpose[,] such solutions as are offered are VERBAL./ We are made for the Glory of God[.] Man seeks to fulfil himself./ Nevertheless the desire for PURPOSE seems a specially human attribute. Since we can see no purpose outside us in this vastly complex world, we must to live at all, form our own purpose within ourselves.' Contemporary Medical Archives Centre, Wellcome Institute, Singer Papers, A56 (hereafter Singer Papers).

interest in the history of science is said to have been kindled by attending William Ramsay's lectures in 1893 and later by reading Benjamin Marten's *New Theory of Consumptions* (London, 1720). In 1910 he married Dorothea Waley Cohen (1882–1964), who was descended from another established Anglo-Jewish family. Their shared interest in the history of science and medicine doubtless encouraged him to change his career. This move was institutionalized in 1914 when Sir William Osler brought him back to Oxford by offering him a studentship in pathology with the understanding that Singer would be primarily involved in history and would be responsible for setting up 'a departmental library for the study of science in its historical aspects'.<sup>14</sup> Not only did Singer set up the History of Science Room in the Radcliffe Camera but he also donated many books from his own library and gave a further £100 per annum for five years towards the purchase of books, some of which appears to have been used for other purposes. Thus, by paying dearly for his privileges at the Radcliffe Camera, Singer became a major benefactor to the history of science and medicine at Oxford. However, with the death of Osler in 1919 and the retirement of Falconer Madan, Bodley's Librarian, in the same year, Singer lost his main patrons and Madan's successor appears to have been opposed to the Science Room.<sup>15</sup> Although the Natural Science Board appointed Singer to a University lectureship in the history of the biological sciences in 1920, he held this post for two years only and then returned to London where he was appointed to a newly instituted lectureship in the history of medicine at University College. He remained at University College until his retirement in 1942, having been promoted to a professorship in 1930.<sup>16</sup>

#### SINGER'S INTERNATIONALISM

This is not the place to dwell on Singer's contributions to scholarship and especially the history of medicine; others are far more able to assess his work. I want instead to concentrate on his views on internationalism and on his increasing involvement in events in Germany in the 1930s and 1940s. Some background is first necessary.

Like his father and many Anglicized Jews Singer was opposed to Zionism and considered that the aspiration for a Jewish state was a relic of an earlier historical stage in the progressive history of Judaism. Nevertheless, despite his aversion to Zionism he accepted Palestine as a sanctuary for Jewish refugees fleeing the pogroms and later Nazi persecution. As a child he witnessed the waves of Jewish refugees arriving in Britain in the wake of the pogroms in eastern Europe beginning in the 1880s. Since his parents were so closely involved in aiding displaced Jews and also because he accompanied his father on several visits across Europe, Singer gained an early and enduring appreciation of the plight of refugees and the degradation and misery they faced at the hands of the oppressor. He

14 Bodleian Library, MS NS/R/1/2, fol. 66. The idea of a science room was based on the Leipzig Institut where a room dedicated to the history of science had been founded in 1902. My thanks to Jack Morrell for providing me with this information.

15 Information kindly supplied by Jack Morrell. Cf. account by A. C. Crombie ('Beginnings at Oxford', *Isis* (1984), 75, 25–8), who omits any mention of Singer's role in Oxford history of science.

16 Paul Weindling ('Refugee physicians and the renaissance of the history of medicine', typescript) has pointed out that Henry Wellcome refused the Singers access to his well-stocked library and also declined to endow a chair in the history of medicine in 1921.

considered that one of the most abiding aspects of Judaism was its optimistic ethos, which had helped sustain so many refugees fleeing from persecution.<sup>17</sup>

Singer's intimate knowledge of the social pressures that forced earlier generations to seek sanctuary in Britain must have prepared him to respond incisively to the worsening situation in Germany after the National Socialists gained power in 1933.<sup>18</sup> Over the next dozen years he played a major role aiding refugees fleeing Nazi persecution. He soon joined the Academic Assistance Council (later the Society for the Protection of Science and Learning), which had been founded in 1933 to aid those teachers and researchers who had been sacked from their academic posts because of their religion, race or political beliefs. Singer served on its Executive Committee and was even proposed as Joint Honorary Secretary – with William Beveridge – but this suggestion was rejected by the Royal Society since it was considered injudicious for a Jew to hold that position. According to one source he 'devoted all his efforts to the refugee cause and to raising funds'.<sup>19</sup> Indeed, as his correspondence shows, from 1933 to 1950 he directed much of his time and effort to supporting the victims of Nazism and to persuading those with power and influence to act effectively against Nazi inhumanity. Writing to the historian of medicine Henry Sigerist in 1940 he complained how few contributions he had recently made to historical scholarship. 'From the beginning of 1933 till the end of 1939 work was almost impossible for me. My mind was too occupied with the [political] situation and with the fate of my colleagues.'<sup>20</sup> A year earlier he had explained to Sigerist that 'Dorothea and I have now for years done nothing but work for exiles. There is in England a very great shortage of girls as hospital nurses and we have placed about 250 from Germany.'<sup>21</sup>

He was particularly exercised by the way in which the Nazis had dismissed fellow academics and had manipulated the German universities to promulgate anti-Semitic doctrines. In 1934 this concern dramatically intersected with the history of science. As president of the Académie Internationale d'Histoire des Sciences from 1929 to 1931, Singer assumed the presidential chair for the second International Congress held in London in 1931 – the Congress that is now best remembered for the participation of a Russian delegation that included Boris Hessen who delivered his Marxist analysis of Newton's *Principia*.<sup>22</sup> The presidency then passed to Karl Sudhoff, the retired professor of the history of medicine at Leipzig, who was expecting to host the 1934 Congress in Berlin. However, political events intervened when Hitler assumed the German Chancellorship in the

17 Singer, op. cit. (7), 119.

18 See, for example, his letter in *The Times*, 7 April 1933, 12. As Tony Kushner has argued (*The Holocaust and the Liberal Imagination. A Social and Cultural History*, Oxford, 1994) many in Britain and elsewhere were unable to comprehend the enormity and barbarity of Hitler's persecution of Jews.

19 R. M. Cooper (ed.), *Refugee Scholars: Conversations with Tess Simpson*, Leeds, 1992, 249. See also W. H. Beveridge, *A Defence of Free Learning*, London, 1959.

20 Genevieve Miller, 'Charles and Dorothea Singer's aid to Nazi victims', *Koroth* (1985), 8, 207–17, on 217. Sigerist had moved from Leipzig to Johns Hopkins in 1932.

21 Miller, op. cit. (20), 216. Dorothea was a Joint Honorary Secretary of the Nursing Department of the Coordinating Committee for Refugees. See Singer Papers, E/1.

22 B. Hessen, 'The social and economic roots of Newton's *Principia*', in *Science at the Cross Roads: Papers Presented to the International Congress of the History of Science and Technology* (ed. N. I. Bukharin et al.), London, 1931, 147–212. See also Loren Graham, 'The socio-political roots of Boris Hessen: Soviet Marxism and the history of science', *Social Studies of Science* (1985), 15, 705–22.



Nazi–Nationalist coalition at the end of January 1933. In the following months German universities were purged of non-Aryan – principally Jewish – academics and any who were opposed to the new regime.

Sudhoff sympathized strongly with the Nazi cause and joined the Nazi party. By contrast many of the other leading members of the Académie were increasingly averse to holding the third International Congress in Berlin. Hélène Metzger (the treasurer, who later perished in Auschwitz),<sup>23</sup> Henry Sigerist, George Sarton (one of the vice-presidents) and Singer were among those who pressed for a boycott in the belief that the Berlin Congress would be an endorsement of Nazi policy. As early as June 1933 Singer wrote to Metzger, ‘I feel that in view of the recent dismissals and forced resignations of Professors in the Universities of Germany it would be a betrayal of the cause of learning for the Comité International d’Histoire des Sciences to collaborate in any way with an international congress... in Berlin.’<sup>24</sup> Writing to Aldo Mieli, the Italian secretary of the Académie then living in Paris, Singer asserted that ‘To arrange at this moment for a meeting in Germany is to aid the suppression of freedom’ and he therefore threatened to resign from the Académie if the meeting were to be held on German soil.<sup>25</sup> The matter was resolved when the president of honour, Sir Frederick Kenyon, who was also one of the vice-presidents of the Academic Assistance Council, expressed the widespread refusal to attend the meeting if held on German soil. At short notice the venue for the third Congress was switched to Coimbra, Portugal.

Two years later Singer played a similar role in deflecting British participation from celebrations at the University of Heidelberg. This train of events began with the publication in the 18 January 1936 issue of *Nature* of a report that had appeared in the German press of a ceremony at Heidelberg to mark the renaming of the Physikalisches Institut as the Philipp-Lenard-Institut.<sup>26</sup> Speakers at this celebration expressed the crudest forms of anti-Semitism and supported the theory that Aryans possess a natural superiority in the sciences. Indeed, at the concluding session Lenard ‘exhorted all to continue energetically the fight against the Jewish spirit’, and he particularly condemned Einstein as an example of ‘Jewish arrogance’. The translated text was published in *Nature* without editorial comment.<sup>27</sup>

At about the same time as this xenophobic outburst, several British universities received letters inviting them to send delegates to the 550th anniversary celebrations at the University of Heidelberg. One response to these invitations was an anonymous article entitled ‘Heidelberg, Spinoza and academic freedom’, which was published in the 22 February 1936 issue of *Nature*. Readers were reminded of the outrageous views of Lenard, whose *Deutsche Physik* opened with the claim that science is racially determined and that ‘German physics’ is the physics of truth. While clearly troubled by events in Heidelberg and particularly by

23 C. Singer, obituary of ‘Mme. H. Metzger-Brühl’, *Nature* (1946), 157, 472.

24 C. Singer to H. Metzger, 9 May 1933; quoted by Gad Freudenthal, ‘Hélène Metzger: éléments de biographie’, in *Corpus: Revue de philosophie. Études sur Hélène Metzger* (ed. G. Freudenthal) Paris, 1988, 197–208, on 207.

25 C. Singer to A. Mieli, 11 June 1933; Singer Papers, A53.

26 Lenard’s support for the Nazis has been graphically charted by Alan Beyerschen in his *Scientists under Hitler. Politics and the Physics Community in the Third Reich*, New Haven, CT, and London, 1977, ch. 5.

27 ‘Philipp-Lenard-Institut at Heidelberg’, *Nature* (1936), 133, 93–4.

the timing of the forthcoming celebrations to coincide with the anniversary of Hitler's earlier purges, the writer of this article concentrated on a historical issue endowed with contemporary significance. He pointed out that in 1673 Spinoza had graciously been invited to accept the chair of philosophy at Heidelberg and was assured that he would 'have the utmost freedom of philosophizing'. Our anonymous author then proceeded to point out that were Spinoza alive today he would not be allowed to hold a position at Heidelberg owing to his Jewish ancestry. Indeed, the University had already dismissed forty-five members of staff on account of their religious backgrounds or political views.<sup>28</sup> As surviving letters from the period make clear, the author was Singer, who doubtless considered that his case would have been weakened if he had published under his own name. However, this incident shows that he was quick to detect and publicize anti-Semitic incursions by the Nazis and to expose their perversion of both history and science.

Singer also intervened in other ways. In a letter to *The Times* on 4 February 1936 the Right Revd Hensley Henson, Bishop of Durham, made effective use of the report of the Philipp-Lenard-Institut in *Nature* to demonstrate that 'The racial fanaticism which has swept over Germany has not left the universities unaffected, in Heidelberg its influence has been specially great.' While the Bishop accepted that British universities should normally respond positively to such invitations, he advised against this action in the existing political climate since academic freedom had been so manifestly undermined at Heidelberg.<sup>29</sup> For the remainder of February arguments raged in the correspondence columns of *The Times* with several writers urging that the best way to bring Germany into line was to maintain academic links by sending a British delegation. Others sided with the Bishop and argued that in the light of orchestrated aggression in Germany such a policy of appeasement would only create a propaganda triumph for the Nazis.<sup>30</sup>

Although Singer did not contribute directly to the controversy in *The Times*, letters of the period show that he was very active behind the scenes.<sup>31</sup> For example, he first drew the Bishop's attention to the report in *Nature* of the bizarre proceedings at the Philipp-Lenard-Institut and also prompted him to intervene publicly. Singer was therefore partially responsible for initiating and orchestrating the boycott of the festivities at Heidelberg. He was, however, particularly upset by the letter that appeared on 10 February from the

28 [C. Singer], 'Heidelberg, Spinoza and academic freedom', *Nature* (1936), 133, 303–4. This item does not appear in the bibliography attached to Underwood, op. cit. (4).

29 Letter from the Bishop of Durham, *The Times*, 4 February 1936, 13.

30 Letters from Arnold Wilson (*The Times*, 7 February 1936, 15), Academic Freedom Committee (7 February, 15), J. B. C. Grundy (7 February, 15), M. G. Balfour (8 February, 8), J. C. Stamp (10 February, 8; and 27 February, 8), Norman Bentwich (10 February, 8), Ann Dallas (11 February, 10), Ian Hamilton (13 February, 13; and 19 February, 13), T. G. Gilmour (14 February, 10), seventeen university teachers (14 February, 10), Edwyn Bevan (15 February, 13), Charles Grant Robertson (18 February, 10), Harold Stannard (18 February, 10), Henry W. Nevison (20 February, 10), J. H. Clapham (20 February, 10), G. E. G. Catlin (21 February, 10), W. H. Beveridge (22 February, 8), F. J. W. Folliot (22 February, 8), F. Gowland Hopkins (24 February, 8), E. Graham-Little (27 February, 8), H. L. Henderson (27 February, 8), Henry E. Armstrong (28 February, 12) and R. Bruce Lockhart (29 February, 8).

31 Weiner Library, Documents Section, 599(2); Bodleian Library, Society for the Protection of Science and Learning (hereafter SPSL), Box 26, file 3 and Box 53, file 4. Singer was also very active in orchestrating responses to an article praising the current state of the German universities that appeared in the *Universities Review* at about the same time.



economist and statistician Sir Josiah Stamp, who also served on the Academic Assistance Council. In his letter to *The Times* Stamp described a recent lecture he had delivered at Heidelberg where he had criticized the Nazis but had been received with the ‘fullest hospitality and not resentment’.<sup>32</sup> Writing privately to Stamp, Singer charged him with naïveté and bluntly told him: ‘you cannot [but] be aware of the fact that every university teacher in Germany has taken an oath of personal loyalty to Hitler and that the celebrations at Heidelberg have been arranged to coincide with the “clean up” of 30th June 1934’.<sup>33</sup> Prompted, as he admitted, by unnamed correspondents Stamp contributed a further letter to *The Times* in which he concluded, rather hesitantly, that he had changed his position and was now prepared to side with those who supported the boycott. As Walter Adams (the General Secretary of the Academic Assistance Council) confided to Singer, Stamp’s letter was a ‘really magnificent triumph for you. I wish there were some decoration or medal that could be given for efficient campaigning’.<sup>34</sup>

Under pressure, especially from academics, the Royal Society, the British Academy and the Universities of London, Oxford, Cambridge and Birmingham formally declined invitations to the Heidelberg celebrations. Although many academics supported the boycott, which was also publicized by the Academic Freedom Committee and the Association of University Teachers, Singer again appears to have been particularly active behind the scenes. He was resilient and determined – some would say brash, even arrogant. ‘The indomitable Singer, breathing Fire & flames is fairly bombarding the unfortunate V[ice] Chancellors’, wrote one of his friends who admitted he lacked Singer’s courage. When he encountered someone who was unsympathetic to his position, ‘the ferocious Singer was contemptuous & said Stuff! Pooh! Miserable Worm!’<sup>35</sup> As a result of the public commotion stirred up by Singer and others the Rector of Heidelberg publicly withdrew the invitations to British universities and charged British academics with harbouring anti-German sentiments.<sup>36</sup>

Singer was very proud to be English and possessed the demeanour of an upper-class Englishman.<sup>37</sup> Moreover, he held British democratic institutions in the highest esteem. However, we need to be clear that he was anti-Nazi, not anti-German. He admired German scholarship. Many of his friends and co-workers were German and he publicly condemned the exclusion of German scientists from international scientific organizations after the First World War, having refused to attend a history of medicine conference held in Geneva in 1925 because German scholars were debarred.<sup>38</sup> His brief portrait of Karl Sudhoff is particularly revealing of his attitudes since he drew a sharp distinction between

32 [Singer], op. cit. (28). See also *The Times*, 24 May 1933, 10, for the article on the formation of the Academic Assistance Council.

33 C. Singer to J. C. Stamp, 14 and 17 February 1936; SPSL, Box 53, file 4. Ernst Roehm and his followers among the SA (Sturm-Abteilung) were violently deposed on 30 June 1934.

34 Letter to *The Times*, 27 February 1936, 8. Walter Adams to Charles Singer, 27 February 1936; SPSL, Box 26, file 3.

35 Leonard Montefiore to Walter Adams, n.d. [February 1936] and 18 February 1936; SPSL, Box 53, file 4.

36 *The Times*, 3 March 1936; *Nature* (1936), 133, 394.

37 See for example anecdote in K. C. Phillips, *Catching Cornwall in Flight, or the Bettermost Class of People*, St Austell, 1995, 72. I am grateful to Bill Brock for this reference.

38 Miller, op. cit. (20), 210; C. Singer to P. Dieppen, 28 April 1934; Singer Papers, A63.

the acceptable and the unacceptable aspects of Sudhoff's character. Having worked closely with him, translated two of his works into English and co-edited his *Festschrift*, Singer readily acknowledged his extensive intellectual debt to this brilliant, learned and generous scholar. However, he also deplored Sudhoff's vanity and political naïveté, which made him 'a natural victim of Nazi propaganda'.<sup>39</sup>

Not only did Singer recoil from Nazism but he was also a committed internationalist who took a firm stance on the universality of science. This aspect of his philosophy of science needs to be linked to his rejection of traditional Judaism, which he found too formal, parochial and restrictive. His writings on science and religion show him drawing a sharp distinction between the two, and he was probably articulating his own position when he claimed that many scientists would describe themselves as agnostic.<sup>40</sup> Instead he regarded science as the paramount procedure for obtaining knowledge. Science, he claimed, 'is knowledge in the making'.<sup>41</sup> This view of science as continually emergent and progressive informs much of Singer's historical writings. Although he explicitly distanced himself from positivism, Singer's historiography – like that of his close friend Sarton – bears many of the hallmarks of Comtean positivism. Most importantly, he believed that positive scientific knowledge would replace earlier religious forms of understanding.<sup>42</sup> Moreover, he was committed to the view that science forms a unity and is universal. In turn this implied that science transcends national boundaries. As he wrote in an article on science and Judaism, 'the development of science itself cannot be said to be distinctive of any people. How could it be, since science is, of its very nature, universal?'<sup>43</sup> Science is international, and the history of science, which Singer viewed as the very epitome of science, must likewise be international in both its content and its practice. Lenard's construction of 'Aryan science' versus 'Jewish science' was therefore patently absurd.

Singer was a committed internationalist and worked unrelentingly to cement the worldwide movement within the history of science community. Thus he served as president of the History of Science Society and Dorothea as vice-president. They were both early and active members of the Académie Internationale d'Histoire des Sciences; indeed, Charles Singer was one of its seven original members. Moreover, of the thirty-four 'membres effectifs' alive at the close of 1947 only four were Britons – Charles and Dorothea Singer (whose elections dated from 1928), the recently elected Sir D'Arcy Wentworth Thompson and Joseph Needham.<sup>44</sup> Following its formation in 1947 he became president of the International Union of the History of Science, and he was one of the first two BSHS nominees on the British National Committee, constituted early in 1948, as part of the

39 C. Singer, *From Magic to Science. Essays on the Scientific Twilight*, New York, 1958, pp. xv–xvii.

40 C. Singer, 'Historical relations of religion and science', in *Science, Religion and Reality* (ed. J. Needham), London, 1925, 85–148, especially 148.

41 C. Singer, 'What is science?', *British Medical Journal* (1921), 1, 954, and *A Short History of Science to the Nineteenth Century*, Oxford, 1941, 1–2.

42 Singer related his early connection with F. S. Marvin, 'that stimulating and invincible optimist, last of the English Comtians', *op. cit.* (39), p. xi.

43 C. Singer, 'Science and Judaism', in *The Jews. Their History, Culture, and Religion* (ed. Lewis Finkelstein), 2 vols., New York, 1949, ii, 1376–429, especially 1412.

44 'Liste des membres de l'Académie internationale d'histoire des sciences', *Archives Internationales d'Histoire des Sciences* (1947–48), 1, 188–204.

International Union. It is fair to claim that throughout the second quarter of the twentieth century he was the key British participant in the international organizations devoted to the history of science.

#### FOUNDING THE BSHS

I want to suggest that Singer's involvement in the formation of the BSHS should be understood as part of this broader internationalist strategy – a strategy that involved not only the Académie but also the International Council of Scientific Unions (ICSU), the United Nations Educational, Scientific, and Cultural Organization (Unesco) and the Royal Society. To do justice to this perspective we need to appreciate that two groups subsequently claimed paternity for the BSHS. One initiative was spearheaded by Robert Whipple, ex-director of the Cambridge Instrument Company, the physicist Allan Ferguson and Francis Butler, an ex-schoolteacher who served as secretary to the History of Science Lecture Committee at Cambridge. None of these belonged to the Académie, and Whipple and Ferguson were primarily interested in antiquarian scientific books and early scientific instruments, although crucial in establishing history of science as a subject in the university curriculum. It is important to note that this group viewed the formation of a new history of science society primarily in national terms and appear to have been relatively unconcerned about its potential role on the international stage. Butler, for example, was hoping to link the new history of science society with his scheme for 'a Central Institute for the Records of Science and the Documenting and Abstracting of Scientific Literature'. While he envisaged links with similar organizations in other countries, his proposal was specifically directed to local concerns, in particular towards forming a centre for British work in this area.<sup>45</sup> Moreover, this group's initial move was to approach Sir Henry Dale, the President of the Royal Society, in order to obtain the imprimatur of that august body. Although first contact had been made some two years earlier, a formal reply was received only in September 1946 when the Royal Society granted its approval and its willingness to provide a room for the future Society's inaugural meeting.<sup>46</sup>

Although Singer was aware of this approach to the Royal Society it is clear that he – together with Dorothea Singer, Herbert Dingle and a number of others – fits into a different mould. His objective was a National Committee that would represent the country and become an integral element within the post-war international history of science community. One indication of this emerging viewpoint is the rapid increase in British participation in the Académie, which included only seven British members in all three classes at the end of hostilities (out of a total of ninety-five). At the Académie's next meeting, which was held in June 1947, a further eight Britons, including Dingle and Needham, swelled this small contingent considerably. That so many British members were elected at that time (and only twelve from the rest of the world) indicates a major offensive,

<sup>45</sup> For example, F. H. C. Butler to Lawrence [Bragg], 30 September 1944; Science Museum Library, BSHS Archive, 4/1.

<sup>46</sup> F. H. C. Butler, 'The foundation of the British Society for the History of Science', *Bulletin of the British Society for the History of Science* (1949), 1, 1–4. E. C. Egerton and J. Salisbury to F. H. C. Butler, 13 September 1946; Science Museum Library, BSHS Archive, 4/1.

orchestrated by the Singers, to increase British involvement in the Académie and thereby to ensure that Britain played a major role within the international community.

During the winter of 1946–47 several leading members of the Académie sought to align the history of science with Unesco in the expectation that the history of science could then have access to Unesco funds. But in order to do this, they needed to affiliate with ICSU; and in order to affiliate they needed to establish national committees for the subject. Hence the Singers conceived the urgent need to found a history of science society that could represent the subject in Britain and be represented on the national committee, which would be administered through the Royal Society. Unesco's munificence included a quarter of a million dollar subvention to ICSU in 1947 and a sizeable grant to the Académie.<sup>47</sup> Dorothea Singer attended a meeting in Paris in mid-December 1946 at which a formal connection between the Académie and Unesco was planned. This Unesco connection would be crucially important in defining the post-war locus for history of science. Two of the key figures were Joseph Needham and Armando Cortesao, who worked at the Unesco office in Paris as, respectively, Director of the Department of Natural Sciences and Counsellor for the History of Science. In the general discussion at the mid-December meeting Dorothea Singer, who was representing her husband on the Council of the Académie, made the opening contribution by announcing that a new history of science society was being formed in Britain, and she looked forward to its close collaboration with the Académie.<sup>48</sup> This intervention further illustrates that the Singers envisaged the BSHS as an integral part of the post-war international history of science movement.

These developments within the Académie are also reflected in the first number of the *Archives Internationales d'Histoire des Sciences*, which opened with an article by Needham and Cortesao on the role of the history of science within Unesco. Their opening sentence reads: 'Since the paramount aim of UNESCO is to promote international understanding in the domains of Education, Science and Culture, as so to contribute towards the peace of the world, it must not fail to pay attention to the History and Philosophy of Science.'<sup>49</sup> This sentiment would have been fully endorsed by the Singers, who likewise viewed science as playing a crucial role in rebuilding Europe and assisting the unification of mankind after the wholesale destruction witnessed during the previous dozen years.

But in order to sit at the ICSU table, and thus be eligible for Unesco funds, the Académie had to establish national committees. As Singer informed a correspondent, 'For reasons of a mainly political nature in connection with UNESCO it became necessary to make an English [*sic*] Society for the History of Science.'<sup>50</sup> The timing was also critical since affiliation to ICSU had to be ratified at the International Congress to be held in Lausanne in September 1947, and plans had to be well advanced for initiating a National Committee in Britain.

47 Julian Huxley to Pierre Brunet, 29 April 1947; Science Museum Library, BSHS Archive, 4/2.

48 *Archives Internationales d'Histoire des Sciences* (1947–48), 1, 132–5.

49 J. Needham and A. Cortesao, 'UNESCO and the history of science', *Archives Internationales d'Histoire des Sciences* (1947–48), 1, 3–4; also, A. Cortesao, 'L'UNESCO. Sa tache et son but concernant les sciences et leur developpement historique', *Actes du V<sup>e</sup> Congrès International d'Histoire des Sciences*, Paris, 1948, 25–35. It is important to notice that Needham and Cortesao were the only new 'membres effectifs' elected to the Académie in June 1947 who had not previously been corresponding members.

50 C. Singer to John Grant, 14 July 1947; Singer Papers, A53.

From this internationalist perspective we must interpret the events of 1946–47. Late in October 1946 Dingle circulated all members of the Académie residing in Britain, together with a number of other interested parties, with an invitation to a preliminary meeting to be held during the following month. As Dingle's letter makes abundantly clear his main aim was to establish a 'National Committee' that would enable the Académie to become part of ICSU.<sup>51</sup> While not all the respondents accepted this perspective, many clearly did. Thus D'Arcy Thompson 'heartily agree[ed] to affiliation with ICSU'.<sup>52</sup> Dingle's subsequent circular invited respondents to a meeting at the Royal Society on 22 November 'to consider forming a National Committee for the History of Science'.<sup>53</sup> Moreover, the programme for 22 November seems to have been orchestrated by the Singer–Dingle camp since the formation of a National Committee allied to the Académie, ICSU and Unesco appears high on the agenda; indeed, on taking the chair Dingle launched into this topic.<sup>54</sup> A typed report of that meeting records that after 'some discussion it was unanimously decided that a History of Science Society should be formed, which could act as a National Group and so fulfil one of the conditions necessary for association with ICSU'.<sup>55</sup> Moreover, in a set of notes, which appear to record an early meeting (probably this first one), Gavin de Beer is reported as having 'moved that the group should be formed – international first [,] national second'.<sup>56</sup> Much of the extant evidence shows clearly that not only Singer but many of the other early members of the Society conceived it principally in terms of its potential global role. However, it is equally clear that not all founder members adopted this perspective. For example, a year after this preliminary discussion when the Society had indeed materialized there was an 'animated discussion' at the Council meeting on 28 October 1947, followed by a vote on the question of whether to approach the Royal Society in order to create the National Committee. Ten voted in favour of this proposal, two voted against it.<sup>57</sup>

While Britain was locked in the freezing winter of 1946–47 and suffering crippling shortages of food and fuel – 'Shiver with Shinwell and starve with Strachey' as one Conservative caption writer put it<sup>58</sup> – plans were taking shape for the new Society. At the initial meeting of 22 November 1946 a steering committee was formed and charged with writing its rules and constitution. It may be significant that of the three men who were responsible for the first approach to Henry Dale,<sup>59</sup> only Butler joined this steering group, later becoming the Society's first secretary, on whose capable shoulders much of the organizational responsibility fell.<sup>60</sup> This steering committee met on two further occasions under Sherwood Taylor's chairmanship before reporting back to the larger group on 12 February 1947, when the draft constitution was accepted. At its final meeting the steering

51 H. Dingle to F. H. C. Butler, 24 October 1946; Science Museum Library, BSHS Archive, 4/1.

52 D'A. W. Thompson to H. Dingle, 2 November 1946; Science Museum Library, BSHS Archive, 4/5.

53 Circular from H. Dingle, 4 November 1946; Science Museum Library, BSHS Archive, 4/1.

54 Butler, *op. cit.* (46), 2.

55 Typed report of meeting of 22 November 1946; Science Museum Library, BSHS Archive, 4/1.

56 Undated notes in pencil; Science Museum Library, BSHS Archive, 4/1.

57 Council Minutes, 28 October 1947; Science Museum Library, BSHS Archive, 1/1.

58 Quoted in Peter Hennessy, *Never Again. Britain 1945–51*, London, 1992, 277.

59 Whipple was seriously ill and was unable to attend meetings.

60 For biographical information on Butler see obituary notices in *The Times*, 19 and 28 November 1970.

committee drew up a slate of officers and council members and the decision was taken to invite Singer to become the Society's first president. Writing to him on 20 April Butler expressed the view that

we all feel that the Society would be greatly honoured by your acceptance of this office... [The invitation] is made to you with complete unanimity and sincerity, and, if I may add, with affection, in recognition of your great work among the studies for which you stand. I think I can assure you that the duties of President will not be very heavy.<sup>61</sup>

Therefore at the Society's first AGM, held at the Royal Society on 5 May 1947, Singer accepted the presidency. His first duty was to recite the names of the officers and council, who were elected unanimously.

Before proceeding I want to dwell on the close connection Singer envisioned between science and its history. He defined science as '*knowledge making*', '*an active process* that can be followed through the ages', and he even argued that if knowledge is static it cannot legitimately count as scientific.<sup>62</sup> Hence science, proper science, is intrinsically time-dependent and thus historical. The historian's job is therefore to keep science – and thus the scientist – in constant touch with history. This view had its institutional correlate in Singer's vision of an intimate connection between the Royal Society and the newly founded BSHS. In accepting the presidency Singer wrote that 'It is a good augury for the future of our Society that it should take place in the historic building of the Royal Society.'<sup>63</sup> A few weeks later a council member, Douglas McKie, wrote to Singer welcoming a membership application from Francis Freeth, FRS, of Imperial Chemical Industries, adding 'the more of them [FRSs] we rope in, the better'.<sup>64</sup> This wish was impressively fulfilled since, of the seventy-seven foundation members sixteen – that is, 21 per cent – were Fellows.<sup>65</sup> Over the next year a further five FRSs joined, and another seven by the end of 1948. Moreover, two FRSs – Gavin de Beer and H. Hamshaw Thomas – served on the council elected in 1947. A high proportion of the early membership – at least 60 per cent – possessed scientific or (less often) engineering or medical qualifications.<sup>66</sup> It

61 F. H. C. Butler to C. Singer, 20 April 1947; Singer Papers, A53; see also Singer's reply, 22 April 1947; Singer Papers, A53. Relations between Singer and Butler were not always so congenial. Singer could be impatient and tended to treat Butler as a menial. Thus shortly before the Lausanne meeting Singer berated Butler for not having circulated members with information about the Congress: 'I know the temptations of this exceptional real summer weather, but the Secretary of the British Society really must function as such!' (15 August 1947; Science Museum Library, BSHS Archive, 4/2). In a drafted response Butler expressed his exasperation – 'I think your remarks about the secretarial work are quite unjustified. I am working hard on the membership of the Society, and [H. W.] Robinson [the hon. treasurer] is too, and these innuendoes are quite uncalled for.' (Draft letter in pencil, F. H. C. Butler to C. Singer, 21 August 1947; BSHS Archive, 4/2).

62 Singer, *op. cit.* (41), 1–2.

63 C. Singer to F. H. C. Butler, 22 April 1947; Singer Papers, A53.

64 D. McKie to C. Singer, 18 May 1948; Singer Papers, A53.

65 G. R. de Beer (FRS 1940), J. D. Bernal (1937), C. H. Desch (1923), Clifford Dobell (1918), F. G. Donnan (1911), R. A. Fisher (1919), F. E. Fritsch (1932), R. Gregory (1933), Harold Hartley (1926), Joseph Needham (1941), C. F. A. Pantin (1937), J. Read (1935), H. R. Robinson (1929), C. S. Sherrington (1893), H. Hamshaw Thomas (1934) and D'Arcy Wentworth Thompson (1916). I have also included F. J. M. Stratton who was elected to the Royal Society in 1947.

66 'List of members on 1st June 1948', *Bulletin of the British Society for the History of Science* (1949), 1, 19–24, reprinted in this *BJHS* number. The proportion is doubtless much higher than 60 per cent since many of those with an MA degree would have studied science at Oxford or Cambridge.



is clear that during its early years the BSHS aligned itself closely with the scientific community and especially with the Royal Society – an alignment that may now seem less natural than it did in the late 1940s.

#### SINGER'S FIRST PRESIDENTIAL ADDRESS, 4 MAY 1948

In the letter inviting Singer to fill the presidency Butler stated that he would be expected to deliver his presidential address – or ‘Address of the President’, as Butler preferred to call it – at that first Annual General Meeting on 5 May 1947.<sup>67</sup> Although Singer concurred with this request in writing, he did not lecture on that occasion, but instead delivered two addresses, the first at the 1948 AGM, the second at the 1949 AGM, when J. R. Partington accepted the presidency. The delay was occasioned by Singer's concern whether he had sufficient notice to prepare an address and his uncertainty over the number of members who would attend the first AGM.<sup>68</sup>

We now turn to the substance of the first of these two addresses since it is here that we see most clearly Singer's vision of the history of science in general and the role of the recently formed BSHS in particular. He engaged three interrelated themes under the title, ‘The Role of the History of Science’, the first being his reconstruction of the intellectual lineage leading to the current state of the subject. He traced the main roots back to the 1830s, especially to the writings of Auguste Comte and William Whewell, while in our own century the outstanding figure was George Sarton. However, Singer also singled out the histories of Thorndike and Partington as comparable instances of ‘massive and constructive learning’.<sup>69</sup> That he included Comte on the list is a further acknowledgement of Singer's debt to nineteenth-century positivism, which likewise informed so much of Sarton's work.<sup>70</sup> A further theme connecting the histories of Whewell, Sarton and indeed Singer, was the unity that science displayed through its history. Although we may consider these writers as *passé* and as rarely, if ever, read, we should be all the more aware that the gains made by these scholars have been obscured by the depth and profundity of Koyré's influence on our subject in the 1950s and by the subsequent reactions from social historians of science. Yet Singer's list of mentors indicates a pre-Koyréan perspective that envisaged science as the great unifying theme transcending national differences.

Secondly, the theme of internationalism was manifest in Singer's argument that national divisions could be bridged by science. ‘Science’, he claimed, ‘is... the most truly humane, the most truly international. The man of science may, better than others claim for himself that he is a citizen of the world and that he speaks a language that can be understood by all who call themselves men.’<sup>71</sup> In order for science to play this international and irenic role it had to be common property accessible to scientists of all nations. Yet, warned Singer,

67 F. H. C. Butler to C. Singer, 20 April 1947; Singer to Butler, 22 April 1947; Singer Papers, A53.

68 F. Sherwood Taylor to F. H. C. Butler, 24 April 1947; Singer Papers, 4/2.

69 C. Singer, ‘The role of the history of science’, *Bulletin of the British Society for the History of Science* (1949), 1, 16–18, reprinted in this *BJHS* number. See L. Thorndike, *A History of Magic and Experimental Science*, 8 vols., New York, 1923–58; J. R. Partington, *Origins and Development of Applied Chemistry*, London, 1935.

70 Arnold Thackray and Robert K. Merton, ‘On discipline building: the paradoxes of George Sarton’, *Isis* (1972), 63, 473–95.

71 Singer, *op. cit.* (69), 16.

dark forces had recently threatened to pervert science from its proper course. ‘Should science cease to be international’, he wrote gloomily, ‘we may know of a surity that the end of civilisation is at hand.’<sup>72</sup> The corrupt science practised under the Nazis was of course implied. Yet Singer’s argument bears a striking resemblance to Robert Merton’s famous analysis, first published six years earlier under the title ‘Science and technology in a democratic social order’, in which Merton postulated four norms necessary for the proper operation of science. In particular, he considered that the first norm – ‘universalism’ – had been wilfully abandoned by scientists under the sway of Nazism.<sup>73</sup>

Thirdly, Singer concluded his address with a rousing evocation of a new science-based humanism which, like its predecessor five centuries earlier, would unify all branches of knowledge. This ‘new humanism’ – a term that Sarton had earlier employed<sup>74</sup> – was greatly needed in the immediate post-war reconstruction of Europe, a reconstruction that he considered would be founded on progressive science and would necessarily incorporate the history of science. Recent institutional developments were highly relevant to this argument and he pointed to the role of the Carnegie Institute and Harvard University in providing a safe haven for George Sarton and *Isis* after the First World War. The History of Science Society and the Académie were subsequently founded, in 1924 and 1927 respectively. In turn this led to the International Union, affiliated to ICSU, ‘itself fostered by the yet wider orbit’ of Unesco. Thus the institutional framework was in place for a strong post-war effort to build a better, peaceful and more unified world through science and its history.<sup>75</sup>

Most of the views Singer expressed in his 1948 presidential address appear also in the writings of George Sarton and it is worth pausing to comment on their shared values. Although Arnold Thackray and Robert Merton have sought to impose on Sarton the image of a discipline-builder,<sup>76</sup> the most evident bond between Sarton and Singer has little relevance for founding a discipline but is instead their shared commitment to history of science as a potentially universalizing and civilizing force. The two men met on many occasions, but particularly relevant to our theme is Sarton’s visit to Britain early in 1948. He spent a week at the Singers’ home in Cornwall, attended a BSHS Council meeting and delivered a lecture at University College London, entitled ‘Science and Tradition’.<sup>77</sup> In this eloquent address Sarton engaged the pressing problem facing any proponent of the new scientific humanism – how had the Nazis managed to pervert science for the purpose of

72 Singer, *op. cit.* (69), 18. At the 1947 Lausanne Congress he had delivered an identical message: C. Singer, ‘Les progrès de l’esprit scientifique au cours de l’histoire’, *Archives Internationales d’Histoire des Sciences* (1947–48), 1, 222–30, and, *Actes du V<sup>e</sup> Congrès International d’Histoire des Sciences*, Paris, 1948, 36–44.

73 Robert K. Merton, ‘Science and technology in a democratic order’, *Journal of Legal and Political Sociology* (1942), 1, 115–26. For a recent analysis of the cultural significance of Merton’s writings of the period see David A. Hollinger, ‘Science as a weapon in *Kulturkämpfe* in the United States during and after World War II’, *Isis* (1995), 86, 440–54.

74 George Sarton, *The History of Science and the New Humanism*, New York, 1956. Most of the lectures in this volume were delivered at Brown University in 1930.

75 Singer, *op. cit.* (69), 18.

76 Thackray and Merton, *op. cit.* (70).

77 ‘He [Sarton] is a very charming man and the members of the Council were delighted to have an opportunity of meeting him personally in this informal way; I think Sarton enjoyed it also.’ F. H. C. Butler to C. Singer, 12 March 1948; Singer Papers, A53.

mass destruction. His answer, which now appears vastly over-simplistic, was to draw a sharp distinction between the scientist and the technocrat. The scientist, he argued, is a moral agent who accepts science as the great progressive force within culture and history. By contrast, the technocrat has no commitment to civilization or to history but responds only to solving the technical questions posed by his political masters. Sarton concluded that the technocrat – not the scientist – had been responsible for building the gas chambers and crematoria.<sup>78</sup>

Singer and Sarton would also have stood shoulder to shoulder on the question of whether history of science should be separated from social and economic history. This issue had been raised at the Society's first academic meeting when Benjamin Farrington attacked Dingle for confining science to 'its thought aspect'. With typical Marxist insight Farrington argued that 'History which ignores the history of science... neglects the most influential movement of modern times... This Society', he continued in a prophetic tone, 'can perhaps play a decisive role in history... but only if it goes beyond the internal history of science and considers science as an integral part of human history in general.'<sup>79</sup> Farrington had earlier joined the steering group of the History of the Social Relations of Science Commission founded at the December 1946 meeting with Unesco.<sup>80</sup> Most of the members of this group were sympathetic to Marxism.

Devoting his 1949 presidential address to the issue raised by Farrington, Singer insisted that the history of science must not stand alone but instead it should strive to become integrated with world history and the history of technology. However, he noted with regret that most mainstream British historians had paid little or no attention to science.<sup>81</sup> Although Singer (like Sarton) insisted that history of science must be the leading theme within world history he displayed but a mild interest in this Social Relations of Science group. That he distanced himself from it indicates his rejection of its dominant Marxist view of history and the very different conception he held of the place of science in world history. While Singer counted many Marxists among his friends and shared their abhorrence of Fascism, he subscribed to the view that science has to transcend issues of class and of politics. Moreover, he rejected the materialistic reductionism of the Marxists and instead championed a form of vitalism.

#### THEN... AND NOW?

Many of the problems facing Singer and the early members of BSHS seem all too familiar; for example, the relation of the history of science to the wider themes of history and to technology. Likewise the problem of how to introduce history of science into the school

78 G. Sarton, *Horus. A Guide to the History of Science*, Waltham, MA, 1952, especially 7–11. For a recent analysis of the role of both science and technology in the Holocaust see Z. Bauman, *Modernity and the Holocaust*, Cambridge, 1989.

79 B. Farrington, 'What must we include in the history of science?', *Bulletin of the British Society for the History of Science* (1949), 1, 6.

80 *Archives Internationales d'Histoire des Sciences* (1947–48), 1, 320–2. The other British members were Leon Rosenfeld, J. G. Crowther, Gordon Childe, Samuel Lilley and H. T. Pledge. Robert Merton, who had relinquished the political left by this time, also belonged to this group.

81 C. Singer, '[Second] Presidential address', *Bulletin of the British Society for the History of Science* (1949), 1, 59–63.

curriculum, which was discussed at an early meeting, has a familiar ring. Yet despite such continuities the history of science has changed considerably in the half-century since the Society's foundation. The kind of history of science practised by Singer and Sarton has long ceased to be at the cutting edge of our subject; indeed, so many of their writings now seem distinctly *passé* and are rarely cited by scholars. Equally outmoded is Singer's vision of science and its history providing the impetus for a new humanism. In a strong sense his understanding of humanism looked back in time – not forwards. Singer's horizons were set by a historical understanding of European culture predating the Second World War, in which America played but a peripheral role. But the Europe he knew before the war had largely disintegrated and the cold war and the bombing of Hiroshima and Nagasaki seem barely to have entered his consciousness in the late 1940s.

But Singer was not alone. A spirit of optimism abounded in the immediate post-war period and many in Britain looked forward to national recovery under the Labour government of Clement Attlee, improved international relations mediated through the United Nations and better mutual understanding guaranteed by Unesco. This is the social and political context in which Charles and Dorothea Singer, among others, conceived a major irenic role for the history of science mediated through its international organizations. This, as I have argued, is also the context we need to employ to appreciate why Singer and a number of his colleagues founded the British Society for the History of Science in 1946–47.

Fifty years later we may smile cynically at Singer's naïveté, and few today would accept his views about the irenic and humanizing functions of the history of science. In the intervening decades history of science has become a widely accepted part of academia – or, more exactly, the academic business. Yet, despite (if not because of) our scholarly sophistication and relative institutional security we have perhaps lost sight of the rationale(s) for pursuing our subject. If many of us remain committed to the history of science in the belief that it has an important role to play in benefiting humanity, we have increasing difficulty in articulating such beliefs to others outside the field, perhaps even to ourselves.

With improved communications, increased specialization within the history of science and the proliferation of both local and international meetings (ranging from the highly topic-specific to the general), there are so many more opportunities for historians of science to meet and to present their research findings than in the immediate post-war period. One result of these changes has been that the series of four-yearly international congresses now plays a less dominant role in the lives of most contemporary historians of science. Singer, however, set great store by these congresses and the international organizations responsible for organizing them. Sarton likewise championed the Académie, proclaiming in 1955 that 'its purpose is great and the struggle worthwhile'. While he was also firmly committed to the Académie's internationalist ideals he had to admit that 'international academies are weaker than the national ones' and that such academies 'are utterly unable to do great things'.<sup>82</sup> Yet in the 1990s international organizations seem to have a new-found importance. At the 1993 Zaragoza Congress I was impressed by the enthusiasm of delegates

<sup>82</sup> George Sarton to Charles Singer, 27 April 1955; quoted in Bern Dibner, 'Sarton letters in the Burndy Library', *Isis* (1984), 75, 45–9.

from countries previously behind the Iron Curtain and their determination to make contact with Western scholars, often for the first time. We surely have a responsibility to encourage such links and to help such ventures.<sup>83</sup> Our involvement also continues through participation in ICSU and with Professor Robert Fox's presidency of the history section of IUHPS (International Union of History and Philosophy of Science). Moreover, there has been a recent initiative, to which the Society has responded positively, to form a European federation of history of science groups. On the home front a new forum is being created to bring together the numerous societies in Britain covering various aspects of the history of science, technology and medicine.

Even if Sarton was right in claiming that international academies 'are utterly unable to do great things' – and he had in mind Newton's composition of the *Principia* as a 'great thing' – we may be witnessing a renewed concern with building bridges between different sections of the international community. It has been a privilege serving as the president of the BSHS and I hope that the Society will continue to play a substantial role in fostering both national and international co-operation. To my mind that counts as an 'important thing', even, perhaps, a 'great thing'.

83 BSHS has recently donated sets of the Journal to libraries in Poland and Estonia.