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REMINISCENCES AND DISCOVERIES

THE (LONDON) PHYSICS CLUB, 1928-1953

by

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In the later 1920s, and into the earlier 1930s, the dominance of Cambridge in British physics was being notably diminished by migration of well-established but still young men, mostly already Fellows of the Royal Society, to senior posts elsewhere. Such a redistribution of talent was not new, but by 1928 a distinctly faster stream had moved away, notably to Bristol (Lennard-Jones, Skinner, Powell) and to London (Andrade to University College, Appleton to King's). Soon after the London Physics Club's formation, G.P. Thomson came to Imperial College from Aberdeen, Blackett left Cambridge for Birkbeck, Hartree and E.J. Williams for Manchester, and Mott for Bristol.

Many of them, while in Cambridge, had been members of the Kapitza Club and/or ∇^2V^* , the latter nominally for theorists but both of them informal gatherings with restricted membership. These associations may well have been in the minds of a group who met in London on 28 February 1928, as recorded in the Minute Book of what became the Physics Club:

A preliminary meeting was held at 8, Eldon Road, N.W.3,† to discuss the possibility of forming an informal discussion group of physicists concerned in theoretical and experimental research in atomic physics.

Present:— Blackett, Hartree, Lennard-Jones, Milne, Skinner.

Subject of Discussion:— Dissociation of molecules by Light – paper read by *Skinner*.

As Blackett and Hartree were then in Cambridge, Lennard-Jones and Skinner in Bristol and Milne in Manchester, and as regular participants were soon to come from as far as Edinburgh, it seems that London was chosen as the most generally accessible meeting-place for what from the beginning was a national rather than a metropolitan group. The large membership from London

* Always pronounced Δ^2V .

† I do not know who lived there. P.B.M.

colleges followed rather than led its inauguration.

The next page of the Minute Book is also quoted in full:

The first meeting was held in the Tea Room of the Royal Society.

The group wishes to put on record their appreciation of the kindness of the Royal Society in allowing them the use of the room.

Present:- P.M.S. Blackett, C.G. Darwin, P.A.M. Dirac, E.G. Dymond, D.R. Hartree, P.L. Kapitza, J.E. Lennard-Jones, O.W. Richardson, H.W.B. Skinner.

C.G. Darwin took the chair & D.R. Hartree was asked to act as secretary to the group.

Subject:- Diffraction phenomena with electron beams.

Papers by: P.M.S. Blackett (Davisson & Germer, Phys. Rev.) E.G. Dymond (G.P. Thomson, P.R.S.) J.E. Lennard-Jones (Zwicky, P.N.A.S.)

Attendances of about 15 were recorded at four further meetings on Saturdays in 1928; chairmen are not recorded, but the concept of 'membership' emerged. 'It was decided to invite S. Chapman to become a member. C.D. Ellis was deemed to have resigned owing to his non-attendance at any of the meetings.' (15 December 1928). Nevertheless, until 26 October 1929, '*Present*' was followed in the minutes by a simple list of names, including some not previously recorded as having been elected. Formality then returned with the entries, '*Guests*: N. Mott, R. Kronig; N. Mott & R. Kronig were elected members of the Club'.

This is the proper place to mention that, at the meeting of 1 November 1930, it was decided that the name of the Club should be the 'Physics Club'; nevertheless, 'London' was often prefixed in conversation, as it had been in the original entry on the flyleaf of the Minute Book.

In January 1931, the matter of membership surfaced strongly. The one and only typewritten set of minutes, presumably circulated beforehand rather than read at the next meeting, contains *inter alia* these paragraphs:

2. After the guests had withdrawn, six nominations for membership were considered. The question of whether the membership of the Club should be limited was discussed at some length and the following rules were adopted.

(i) The total membership of the Club shall not exceed 30.

(ii) Members who are absent from four consecutive meetings of the Club shall be deemed to have resigned, but they may be renominated for membership at any subsequent meeting.*

*The object of renomination is not to exclude from membership those who have been unavoidably absent, as, for instance by a period of residence abroad.

By the end of 1931, the minutes name a Chairman, first C.G. Darwin; and one meeting had been held not in London but in the Old Combination Room of Trinity College 'to coincide with the visit of Prof. Niels Bohr to Cambridge.' He was listed as a guest, the speakers being R.H. Fowler, A.H. Wilson and P.

Kapitza.

In February 1932, W.L. Bragg was formally elected chairman, with Mott as secretary; Hartree's clear round writing was replaced by Mott's equally clear compact hand but occasionally erratic spelling (e.g. Cockroft). A return to what appears to be Hartree's writing is unexplained, but the standard of legibility was maintained by R.W. James, whose secretaryship (with Blackett elected President but immediately demoted to Chairman) lasted from 1935 until the 40th meeting on 20 February 1937, held at Imperial College. Ellis then reappeared, in welcome defiance of his long disqualification; Mott was now appointed to chair the meetings with Moon to record them. They were burdened immediately by much correspondence and discussion about membership and subscriptions; *post hoc*, and possibly *propter hoc*, McCrea, Milne, Müller and Temple resigned. Peierls, Born, Simon, Menzies, Heitler, Oliphant, Braddick, Bernal and (K.G.) Emeléus were elected. These elections effectively ended the illogical separation of members from frequently attending and distinguished guests, but at most meetings 'occasional' guests outnumbered the membership.

The 41st meeting was held in Cambridge, as had been the 25th; the 42nd (27 November 1937) was remarkable for the presence of the shy and long-absent O.W. Richardson who was metaphorically dragged to the Chair. He came once more, in 1939, before writing a sad little letter of resignation in 1951. The 49th meeting was on 6 May 1939, but the Club had to wait nearly seven years for its 50th, on 23 February 1946. Then and at the 51st (4 May 1946) the attendance was more than 50; another mass election was held, including such luminaries as C.F. Powell and P.P. Ewald. Membership was offered rather than solicited and Ewald was one of several who apparently did not accept; he was in Dublin.

Mott invited the Club to Bristol for the 56th meeting, at which Powell spoke. No other detail of that meeting was recorded, but Mott ceased to be the regular chairman, Moon and Pryce moving up the ladder of responsibility. Pryce, after taking over the Chair from Moon in 1949, soon departed to the USA; Wilkinson, as Secretary, held the reins until the 75th and last meeting, in Cambridge, on 19 September 1953.

Attendance had declined but there was no formal dissolution; indeed, two more members were elected at that meeting. By happy coincidence, it was chaired by Sir George Thomson, then Master of Corpus Christi, who was among the first to be elected by the founding group 25 years earlier.

The original concentration on atomic physics, though naturally extended to nuclear matters, had been well maintained, but later meetings were rather more widely spread. 'Big' physics, whether in large accelerator projects or astronomical developments, was developing a tendency to big meetings, and even more homely subjects were becoming popular when the Club ended.

The Club was closely though not exclusively linked with the Royal Society: its normal meeting place was at Burlington House. Four of the five founders were Fellows, as was the fifth after a few years, and I can find no time when the majority of members were not within the Fellowship. Adding in those appearing as 'speakers' or 'guests', I find in the Minute Book a total of 105 ± 2 who were Fellows or Foreign Members. The uncertainty ignores possible errors of counting; it reflects the genuine problem that, usually, only surnames were recorded. There was only one woman member, Bertha Swirles, whose marriage to Harold Jeffreys did not bring him in.

By arrangement between Sir Denys Wilkinson and the College Archivist, the Club's papers are to be deposited at Churchill College; it is through his kindness in letting me have them for what has proved to be a longer than expected time that I have drafted these rather pedestrian notes. The full collection includes various lists, with addresses, of those in membership from time to time; there are letters of acceptance, occasionally of resignation, one requesting a change of an agreed and circulated meeting date and one from R.W. James, enclosing the Royal Society's receipted bill to The Physics Society [*sic.*] for the use of the lantern at the meeting of 27 November 1938. James had just been appointed in Cape Town and wrote 'They sent it to Manchester, of course, but it was forwarded to me here'. The primary fault perhaps lay with the new secretary (Moon) for not alerting the Royal Society to the changeover, but the title was a Burlington House invention. A more solemn communication from the Society is an acknowledgement of a meeting booking, on black-bordered paper following the death of King George V.

I refrain from making any selection on grounds of importance from among the (approximately) 140 talks at the Club's meetings, but it should be said that topicality was a well-observed criterion, that an invitation to a young-man-in-the-news often gave us a valued new member, but that we were not very good at catching visitors from abroad. The meetings had an agreeable character of informality combined with an orderliness that was encouraged by the rows of red-upholstered benches in the Burlington House meeting-room. The chairmen did not presume to use the presidential seat, but the earlier ones and some others saw to it that discussion was kept well to the point. I had particular admiration of Sir Charles Darwin's ability to extract, by an incisive question, the essence of the matter from any diffuse contribution. The most famous example of his brevity was at the Cambridge conference on beta and gamma rays in 1937 when Irène Curie made a complicated suggestion to which Smekal gave a long rebuttal in German. Darwin's translation was 'Professor Smekal says that's a crazy notion'.