EUROPEAN PHYSICAL SOCIETY (1968-2008): THE EARLY YEARS

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The European Physical Society is getting ready to celebrate its 40th anniversary as one of oldest pan-European scientific societies based, partly, on individual membership This paper aims to convey an impression of the motivations that guided the founding fathers and of the context in which they succeeded in launching, in less than 30 months, what was to become a stronghold of European science. It is based inter alia on the first issues of Europhysics news, a complete set of which – a rarity, to be sure - is kept in the Archives of EPS, at Mulhouse, where the present author was graciously allowed to consult them.

Pisa, Geneva, London, Prague

If the European Physical Society was founded in 1968, the first initiatives date from November 1965, when Gilberto Bernardini (1906-1995), the distinguished cosmic rays and nuclear physics specialist and then-rector of Pisa's Scuola Normale Superiore, convinced his colleagues, gathered on the occasion of the annual conference of the Italian Physical Society, of its potentialities [1]. A special meeting was convened in Pisa, on 16-17 April 1966, with attendees from all over Europe. There was an enthusiastic key-note address by Sybren de Groot (b.1916; Amsterdam) and the ensuing discussion led to the conclusion that immediate steps should be undertaken. A Steering Committee was nominated, chaired by Bernardini. In November 1966 and May 1967 there followed Committee meetings at CERN, Geneva, and the Institute of Physics, London. Two Working Groups were the result, the one, chaired by Anatole Abragam (b.1914; Paris), aiming at a legal constitution of the new Society, the other, headed by the energetic Bernardini, charged with the planning of its foundation. A Secretariat was set up in Geneva, coordinated by Mrs. Lorette Etienne-Amberg; Switzerland seemed a logical choice of headquarters because of the ease of creating associations there, and because it was the home of many other international organisations. The Working Groups were abolished, but reappeared as Subcommittees, two new Subcommittees being inaugurated with concrete tasks: publications and the organization of the inaugural conference, the first of the Society. From the very beginning, Eastern Europe was given detailed attention: in May 1968 the Steering Committee was warmly received at Prague's Carolus University and elaborated on topics of mutual concern for East and West [2]. That very same year, on 26 September, the brand new European Physical Society was officially registered and its constitution undersigned in CERN's Council Chamber, Geneva. In this way sixty-two individual members and twenty national societies, academies and groups enrolled. The Turkish Physical Society would follow soon.

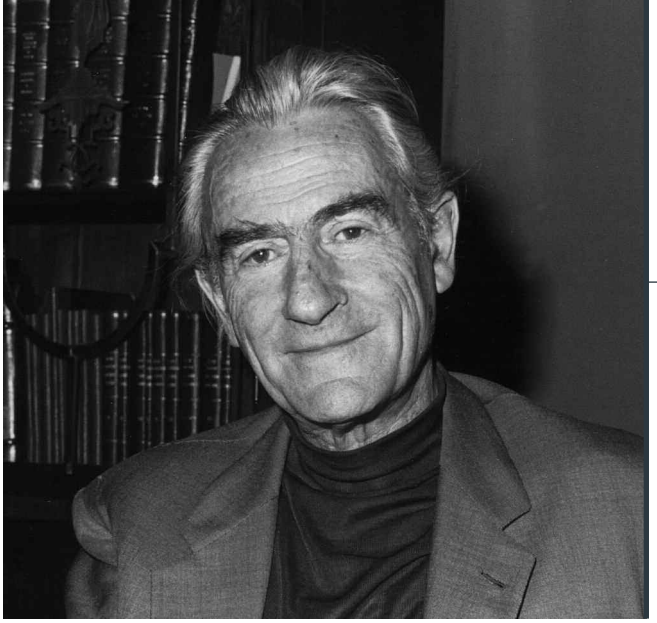
Bernardini: physics as culture. Divisions

The inaugural congress was scheduled for 8-12 April 1969, in Florence, the theme being 'The growth points of physics'. Florence most courteously welcomed its approximately two thousand guests in the magnificent surroundings of two of its Renaissance palaces: the Palazzo Vecchio and the Or' San Michele [3]. Bernardini opened the 'Inaugural Session' wholeheartedly stressing the importance of the Society in making science a "source of wide-spread, deep-rooted culture, … to serve as a beacon light whenever difficulties beset the path of mutual understanding or human dignity and freedom are threatened" [4]. Subsequently, Victor Weisskopf (1908-2002) [5] presented a survey on 'Physics in Europe in the twentieth century', whilst Patrick M. Blackett (1897-1974) [6], the senior physicist present, brought in a touch of nostalgia by reviving 'The old days at the Cavendish Laboratory'. The actual 'growth points' concerned: 1) astronomy, astrophysics, cosmology and relativity; 2) nuclear and elementary particle physics; 3) physics of condensed matter; 4) atomic, molecular and plasma physics; 5) quantum electronics and optics. Still at Florence, an Executive Committee was elected, chaired by Bernardini, who became in this way EPS's first president, with Erik Rudberg (1903-1980; Stockholm) as vice-chair.

In the slipstream of the news of the Society's envisaged foundation, several specialized branches began developing closer networks. These initiatives were seized upon by the Executive Committee, which had always had in mind a substructure in terms of Specialised Divisions. The first of these were officially recognized in 1969 [7]: Atomic Spectroscopy under Alfred Kastler (1902-1984; Paris), Condensed Matter Physics under Samuel Edwards (b.1928; Manchester), Low-Temperature Physics under Jan de Boer (b.1911; Amsterdam), Plasma Physics under Bo Lehnert (b.1926; Stockholm), and Quantum Electronics under Klaus Peter Meyer (b.1911; Berne).

A place of its own

The new Society had to establish its credibility as there were already several more or less formalised networks in existence, among which the distinguished Summer Schools of Les Houches and of Uppsala-Beitosløelen, the first devoted to Theoretical Physics (Grenoble; since 1951), the second to Quantum Theory in Chemistry, Physics and Biology (Uppsala, Beitosløelen). In France, the Groupement Ampère [8], mainly consisting of research scientists, but allowing postgraduate students among its members, had been active since 1952 and had acquired a European dimension. The idea behind these summer schools had been, on the one hand, to push Europe forwards in the post-war world of science as dominated by Russia and the United States, and, on the other, to bridge the gap between the university curricula of the various academic traditions and the cutting-edge research science of the time. That idea had met with such success that, as Bernardini put it once [9], "every European country which had some villa or castle to offer with a nice view on some mountain or lake" featured a summer school or was hard trying to acquire one. Already in the autumn of 1970 the 1000th individual member joined the



◀ Gilberto Bernardini, the 1st EPS president

Society. It was the time that the first 12 issues of *Europhysics news*, together with the pilot issue and two 'Meetings issues', were provided with a 'General index'.

Publications

The Committee on Publications, directed by Jan de Boer, decided not to aim at independent European journals as counterweights of AIP's *Physical Review* and its derivatives [10]. Instead it opted, given the particularities of the Old Continent, for the upgrade of existing journals by setting appropriate standards: the languages should be three or four out of English, French, German and Russian; the editorial committee had to feature eminent scientists from other European countries; the choice of the editor-in-chief and the composition of the editorial board should be subject to approval by the EPS; an effective refereeing system should be put in place in order to guarantee a high scientific standard and, of course, to avoid national bias; there should not be page charges and some uniformity rules ought to be agreed upon (size; front page make-up; preparations of manuscripts). In March 1970, the first journals were accepted and granted the right to use the EPS logo and the distinction *Recognized by the European Physical Society* on their cover. It concerned the *Czechoslovak Journal of Physics, Fizika, Il Nuovo Cimento, Journal de Physique, Journal of Physics Section A, B and C, Physica, The Philosophical Magazine* and the *Zeitschrift fuer Naturforschung*. For direct communication with the membership *Europhysics news* rapidly imposed itself, though inadvertently [11]. It concerned a most gratifying co-operative effort of CERN, the Institut Battelle [12], the University of Geneva and the Main Secretariat. Initially, it was meant to be temporary, in the wake of a full-size periodical in the spirit of *Physics Today*, but rapidly became indispensable. The dust-dry first issues, full of constitutional and financial details, indeed almost spontaneously turned into a more lively journal: the editors, guided by Lorette Etienne — and, later, Peter Boswell —, could not help reporting great events, *e.g.* the deaths of Amos de-Shalit (2 September 1969) and Max Born (5 January 1970) and the Nobel Prizes for Murray Gell-Mann (1969) and Louis Néel and Hannes Alfvén (1970), and soon included 'classified advertisements' for vacancies at the professorial level. In parallel, a 'Letters to the Editor' section emerged out of the blue, reflecting the societal and educational preoccupations of the time; it bore testimony of a keen interest of the readership in what was going on. Authorities introduced the various 'blood groups' of the new Society in a loose, 'getting together party' style: so M. Lebedenko described the Joint Institute for Nuclear Research at Dubna, the Editors successively analyzed the functioning of the German, the Hungarian and the French Physical Societies, while Andrew V. Borovsky and Louis Cohen (1925; Institute of Physics) assessed the organizational structure of the Russian Academy of Sciences and the Institute of Physics (and the Physical Society), respectively. Twice a year an issue featured the conferences of the near future, classified in the strict terms of the Conference Committee. This Committee was composed of Werner Buckel (1920-2003; Karlsruhe), Jacques Friedel (b.1921; Orsay) and Nicholas Kurti (1908-1998; Oxford). It had proposed two types of conferences: General Conferences on the lines of the Inaugural Conference of Florence, and Europhysics Conferences, the latter modelled on the Gordon Conferences in the US [13]. These 'Europhysics Conferences' would be state of the art 'study conferences', essentially different from the summer schools both in venue, duration and attendance. The attendance would be only on invitation (after application), the conference being held preferably for about 4-5 days and so in a truly Spartan environment "away from the distractions of large towns, …with facilities for outdoor recreation", thus not so much in villas or castles, but *e.g.* in holiday and sporting resorts out of season. Apart from these, there would be 'topical conferences' under the responsibility of the Divisions. Any conference held in Europe could be sponsored by EPS when it satisfied well-defined criteria as to scientific value, international character and organization.

Education

One of the major topics discussed was, naturally, education. Edoardo Amaldi (1908-1989) the visionary initiator of CERN and by now dean of the Physics Department of Rome University, addressed the matter in a plenary talk at the Inaugural Conference [14]. Amongst the new aspects of the problematic he mentioned the enormous growth of the student population at all levels (the birth-wave of the late 1940's) and the existing gap between education (secondary school, university) and society as to the latter's technological complexity and scientific refinement. Culture was indeed increasingly permeated by science, though the acceptance of science as an integral part of that culture had not evolved correspondingly. To cope with this odd situation - a real menace for the future, in Amaldi's opinion - the educational methods had to be modernized, whilst more time and attention should be devoted to the teaching of mathematics and the natural sciences from new points of view. IUPAP's Committee on Physics Education (1960) had indicated the way to forward; UNESCO and OECD contributed in their own way. Several projects had been launched in

the mean time by the Physical Science Study Committee and Harvard Project Physics was well underway; UK's Nuffield Foundation concentrated on the guidance to teachers. By and large an increase in the role of the humanities and social sciences was inescapable. An important suggestion came from Russia, namely, to link secondary schools with neighbouring institutions of higher education and/or industrial companies; the important thing was to give students easy access to research laboratories at the forefront of science. Amaldi otherwise referred to the contemporary unrest and movements among students. The immediate reasons were evident, in his eyes: the archaic structure of many universities, on the one hand, and the inadequacy of the staff and of the facilities, on the other. The profound dissatisfaction of the young generation with the present state of affairs prevailing in the world should be acknowledged.

Pure and Applied Physics, Science and Industry

Another - more traditional – 'hot' subject was the relation between pure and applied physics. In the German system that relation was embodied in the presidency of its Society, where captains of industry alternated with university professors. It was a favourite theme of Hendrik Casimir (1909-2000; director research and development at Royal Philips Incandescent Lamps Factories, Eindhoven), who had been asked to assess it at the Inaugural Conference in Florence [15]. In most of the older industries empiricism and the results of past generations dominated perhaps, Casimir argued, but even there systematic research became necessary. New branches, though, tended to be based entirely on fairly recent scientific research. Electronics was a case in point: Casimir discussed in some detail the progress of the loudspeaker and the magnetic tape of the tape recorder, showing how a great variety of fundamental physical notions were involved in these comparatively simple products. Casimir's plea was not in vain. There would indeed be an Advisory Committee on Applied Physics and Physics in Industry, a committee chaired by Otto Gert Folberth (b.1924; IBM, Boeblingen).

Those were the days

Those were simple days, at least in hindsight. Laurens Jansen (Geneva), the first Secretary of the Executive Committee, called it, on the fifth anniversary, the 'romantic period' [16]. The root-mean-square physicist still resembled the 'good savage' of Jean-Jacques Rousseau, one might say, fully enjoying their research and almost unconscious of the bad things in the outer world. The word 'gender' had not yet invaded our root-mean-square's vocabulary. The lady physicists, that had always been there, just did what a good physicist ought to do, that is, science. That France featured the largest fraction — doubtless due to Marie Curie, her daughter Irène and granddaughter Hélène — was broadly appreciated in the community. It was in fact considered one of its charms. To conclude with just a fact: anno 1970, the Institute of Physics (and the Physical Society) was numerically by far the largest Society; it was followed by the Societies of Germany, France and the Netherlands, and the USSR's Academy, in that order [17].

Erik Rudberg succeeded Gilberto Bernardini, Casimir succeeded Rudberg, … Martin Huber (Zurich) left, Ove Poulsen (Aarhus) came, to be succeeded by Friedrich Wagner (Greifswald). Those forty years knew three General Secretaries who guaranteed the continuity: Lorette Etienne-Amberg, Gerald Thomas (1974-1997), and, since, David Lee. In 1997, the Society moved from CH-1213 Petit-Lancy 2, Geneva, to F-68060 Mulhouse Cedex, where it finally received indeed stylish premises, under the wings of the University. ■

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About the author

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References

[1] The event was summarized in a 'special issue', of *Europhysics news, Bulletin of the European Physical Society*, number 0 (November 1968).

[2] The still current EPS logo was proposed on this occasion by the Czechoslovak Physical Society.

[3] The *Proceedings of the Florence Inaugural Conference* appeared as a special issue of *Rivista del Nuovo Cimento* (1969); we refer to it in the following.

[4] Above, reference 3, p.XI-XII.

[5] Above, reference 3, p.XIII-XXXI.

[6] Above, reference 3, p.XXXII-XXXIX.

[7] *Europhysics news* **1** (5) p.1-2 (September 1969).

[8] An acronym ... for Atomes et Molécules Par Etudes Radioélectriques. The XVIth colloquium was scheduled for 1-5 September 1970 in Bucharest.

[9] *Europhysics news* **1** (6) p.1-3 (November 1969).

[10] *Europhysics news* **1** (2), p.1-2 (March 1969).

[11] *Europhysics news* **1** (12) p.1-3 (November 1970).

[12] The Institut Battelle was the Geneva branch of the Battelle Memorial Institute of Columbus (Ohio), a not-for-profit organisation created in 1929, by the will of Gordon Battelle (1883-1923), ''for the encouragement of creative and research work and the making of discoveries and inventions".

[13] *Europhysics news* **1** (12M) p.1-2 (Autumn 1970). *The Gordon Research Conferences* had been installed by Neil Elbridge Gordon (1886-1949) of Johns Hopkins University to stimulate unfettered scientific discussions; the first was organized in 1931. Guests were not admitted in the conference room; recording of lectures and photography of slides or posters were strictly forbidden; it was not allowed to refer in print to papers or discussions; there were no proceedings.

[14] Above, reference 3, p.1-16.

[15] Above, reference 3, p.17-29.

[16] *Europhysics news* **4** (11) p.6 (November 1973).

[17] *Europhysics news* **1** (10) p.5 (July 1970).