Crafting Europe from CERN to Dubna: Physics as diplomacy in the foundation of the European Physical Society

DOI: 10.1111/1600-0498.12304

SPECIAL ISSUE ARTICLE

Centaurus WILEY

Crafting Europe from CERN to Dubna: Physics as diplomacy in the foundation of the European Physical Society

Roberto Lalli

Max Planck Institute for the History of Science, Berlin, Germany

Correspondence
Roberto Lalli, Max Planck Institute for the History of Science, Berlin, Germany.
Email: rlalli@mpiwg-berlin.mpg.de

Funding information
Spanish Ministry of Science and Innovation, Grant/Award Number: PID2019-107234GB-I00

SPECIAL ISSUE
Global Perspectives on Science Diplomacy

GUEST EDITORS
Matthew Adamson and Roberto Lalli

This Special Issue was selected by a dedicated ESHS committee after a public call for special issues.

Abstract

The year 1968 is universally considered a watershed in history, as the world was experiencing an accelerated growth of anti-establishment protests that would have long-lasting impacts on the cultural, social, and political spheres of human life. On September 26, amid social and political unrest across the globe, 62 physicists gathered in Geneva to found the European Physical Society. Among these were the official representatives of the national physical societies of 18 countries in both Eastern and Western Europe, who signed the constitution in spite of the political divides of the Cold War. According to the main proponent of the society, Italian physicist Gilberto Bernardini, the success of the initiative was the realization of a dream: the institutional formation of a single community of European physicists, a representation of a culturally unified Europe that he described as a "single highly civilized nation." The analysis of as yet unexplored archival materials of Bernardini and other protagonists in the establishment of the society has enabled an investigation of the historical development of science diplomacy in two interconnected ways: first, by elucidating how the actors involved, especially those in Western Europe, interpreted their role as diplomats amid particularly turbulent reconfigurations of international political relations; second, by interpreting the attempt to

institutionalize transnational scientific networks with the establishment of a non-governmental organization as a tool to influence world political affairs. It will first be shown that the political ideal of a culturally unified Europe was deeply intertwined with the socio-professional interests of a specific community, mostly involved with CERN. I will argue that, in the process of establishing the society, the invasion of Czechoslovakia by Warsaw Pact armed forces led many of the Western physicists involved in this process to reframe the role of the European Physical Society as a tool to diffuse liberal-democratic values and to support political dissidents in Eastern Europe.

KEYWORDS

CERN, Cold War, European integration, European Physical Society, European science diplomacy, Gilberto Bernardini, Prague 1968

1 | INTRODUCTION

On September 26, 1968, 62 physicists, including the official representatives of the national physics societies of 18 countries in both Eastern and Western Europe, gathered in Geneva to found the European Physical Society (EPS). At the time of its foundation, the EPS was one of the very few specifically European international scientific organizations to transcend the Cold War political divide. Even more remarkably, the society, with its broad East–West European membership, was founded only 1 month after five member countries of the Warsaw Pact had invaded Czechoslovakia to stop the Prague Spring and the liberal reforms enacted by Alexander Dubček.[1]

The particularity and timing of the foundation of the EPS makes this process a particularly suitable case for investigating the historical development of what has been recently termed "European science diplomacy" and its connection with the "European style of research" in two interconnected ways: first, by elucidating how the involved physicists, especially those in Western Europe, interpreted their role as diplomats amid particularly turbulent reconfigurations of international political relations; and second, by interpreting the attempt to institutionalize transnational scientific networks with the establishment of a non-governmental organization as a tool to influence world political affairs.[2] In doing so, the paper takes the perspective promoted by transnational approaches to the history of science, which have increasingly highlighted transnational networks as crucial analytical units in uncovering the role of non-state actors in international endeavors at the intersection between science and politics.[3]

[1]The countries involved in the invasion of Czechoslovakia were Bulgaria, East Germany, Hungary, Poland, and the USSR. Although they were ready to support the operation, East German troops were eventually prevented from crossing the Czechoslovak national border on Soviet orders because it was feared that the memory of the German occupation during World War II would have increased Czechoslovak resistance: Stolarik (2010, pp. 136–164), see also Gschwend (2008). Although East Germany's troops did not actually enter Czechoslovak territory, from the perspective of Western public opinion, the country was involved in the invasion.

[2]Quotations from Müller & Bona (2018); Stein (2002, p. 468). See also Moedas (2016).

[3]For the role of international nongovernmental organizations in world affairs, see Iriye (2002). For the importance of transnational networks in the history of science diplomacy, see Turchetti, Herran, & Boudia (2012).

In his inaugural speech, the first EPS president, Italian cosmic-ray and nuclear physicist Gilberto Bernardini, made it clear that the society was created to fulfill both a scientific and a political function. Among the most important scientific purposes of the society, Bernardini emphasized the coordination of physics journals, summer schools, and conferences, as well as support for teaching activities and the circulation of students. But for Bernardini, the EPS would also play a subtler and even more important role at a completely different level. The EPS was deemed a "utopian" enterprise of people who held an implicit belief in Europe and saw the society as a contribution to the realization of "European cultural unity." And a culturally unified Europe, Bernardini believed, could prove to be a guiding light of humanity, where "[s]cience could take the role of a new humanism."[4]

Bernardini presented an elitist, scientistic, and of course, Eurocentric vision in which the conjunction of Europe and science was fated to play a fundamental role in the future structure of human society. In other public speeches, he presented the EPS as a contribution to a more ambitious political project: the political integration of all Europe doomed to become "a single highly civilized nation."[5] Whatever we may think about the naivety, Eurocentrism, and scientism of the views expounded by Bernardini during such a strained historical period, they signal that some of the protagonists involved in the venture saw the foundation of the society as a diplomatic endeavor aimed at supporting the process of European political integration by transcending national borders, both political and ideological.

In this paper, I take this diplomatic ambition seriously. By drawing on a large amount of as yet unexplored archival materials stored in the personal collections of key figures involved in the establishment of the society, I analyze how the discussions about the functions and structure of the society were framed in relation to the political context. Letters, committee reports, and transcripts of committee meetings reveal the views and opinions of those involved, which can then be compared with the public image of the society they portrayed in their speeches. Even if private views occasionally emerge, the material analyzed above all concerns the shared discourse, within the arena of the meetings and conversations, of a special group of physicists—a group formed by elite individuals at the center of European physics, both at national and international levels. The documents and the approach employed have led me to use a double conception of politics. The first, narrow conception is limited to how the actors tried to position themselves and the society against the background of what they saw as macro-political processes in the changing international relations within Europe. The second conception concerns the relation of the society's functions to national governments' interests in the context of the international governance of science.

By giving relevance to the scientists' own perspectives rather than to state or diplomatic actors, I try to elucidate how the socio-professional interests of a specific scientific community based in Western Europe interacted with larger political and cultural forces in establishing the idea of physics as a diplomatic tool in the construction of Europe and how this idea became so strong as to lead to the establishment of a brand new society.[6] I then argue that, in the process of its establishment, the diplomatic function of the society was reconfigured as a tool to diffuse liberal-democratic values in reaction to the invasion of Czechoslovakia in 1968, especially by becoming a transnational network that supported a dissident physicist in Czechoslovakia suffering political discrimination.

[4]"Official Inauguration" (1968, p. 7).

[5]"European Physical Society" (1968, p. 35).

[6]The idea of physics as a diplomatic tool for improving international relations, with special reference to the European context, is certainly not new. In the 19th century, various international scientific ventures were already being promoted (also) by physicists who combined internationalist perspectives with a Eurocentric vision: Crawford, Shinn, & Sörlin (1993). This was especially true of the activities of the International Bureau of Weights and Measures, established near Paris in 1875. However, many of the projects between the late 19th and the early 20th centuries were strongly shaped by a form of scientific internationalism that was close to what Geert Somsen coined "Olympic internationalism," where the international arena served as the necessary environment in which to compete for national scientific prestige: Somsen (2008); see also Forman (1973). The same held true for the International Meter Commission and the Bureau of Weights and Measures: Daston (2019). This is very different from the case I discuss here. I will show that in the views of many protagonists, national competition between European physicists was one of the major problems this society was designed to solve.

2 | THE POLITICAL CONTEXT: THE EUROPEAN INTEGRATION PROCESS AND THE COLD WAR

Bernardini first made the proposal to create a European forum for physicists at a meeting of the Italian Physical Society in Bologna in November 1965. A series of steps undertaken subsequently saw the increasing participation of European physicists, including official representatives of European national physical societies. This process ended with the successful foundation of the EPS in Geneva 3 years later.[7] The main proponents came to perceive their actions as being pioneering, and clearly framed them as such. The society was one of the first to be explicitly aimed at building connections throughout the entire European continent. There were many international organizations whose purpose was to improve scientific cooperation across borders, in Europe and elsewhere, but none of them could provide a model for a European scientific society that transcended the Cold War divide. Both the organization and legal structure of the society had to be decided through internal discussions within the physics community itself. This was even more necessary because the EPS was designed as a private organization rather than one based on a contract between national governments, as is the case for intergovernmental organizations such as CERN or UNESCO.[8] Because of how original the initiative was at the time, it is reductive to interpret the move toward the foundation of the society as a simple consequence of broader historical forces pointing to greater European integration.

Nonetheless, it is necessary to understand how the proposal to establish a European society of physicists was embedded within the interconnected developments of two major broader economic and political processes: European integration and the Cold War. There were many elements of these broader contexts that certainly provided conditions without which the society would hardly have been proposed. Among them, the first steps toward the foundation of the EPS were certainly favored by the successful implementation of economic integration between the Inner Six of the European Economic Community, by the period of slight détente in Europe in the 1960s, and, more subtly, by the impact in the mid-1960s public discourse of Charles de Gaulle's geopolitical vision of an intergovernmental Western Europe embedded in a larger pan-European system. This system would encompass "the Atlantic to the Urals," as opposed to the US-dominated Atlantic system embodied by the NATO alliance.[9]

Established in 1957, the European Economic Community enjoyed considerable success from the late 1950s to the early 1960s. In 1962, various surveys showed that Western European elites were strongly in favor of greater European integration and considered the nation-state to be an "obsolete" political form.[10] This view was supported by widespread approaches in the political sciences, such as Ernst Haas's influential theory of neofunctionalism, which depicted an increasingly politically integrated Europe as an inevitable and automatic consequence of the economic cooperation in specific sectors.[11]

In November 1965, however, when Bernardini proposed the creation of a common European forum, the situation was less promising: De Gaulle's opposition to the UK's request to join the European Economic Community in 1963 and the "empty chair" political crisis in July 1965 shook some of the most optimistic views about future political integration in Western Europe.[12] The Economic Community was still limited to only seven countries.[13] Whatever hope there was for greater political integration in the future, it concerned a very limited part of Europe, which was not the broad Europe Bernardini and the other physicists envisaged as the geographical reach of the future European physics forum.

[7]"From Bologna to Geneva" (1968); Bernardini (1972); Bevilacqua, Giannetto, & Tagliaferri (1993); Kubbinga (2008).
[8]Pierre Lalive, professor of law at the Institut des Hautes Études Internationales in Switzerland, stated "[A]t the present time it is just impossible to create an international society in a legal sense. It simply doesn't exist." "Outline of Legal Problems Concerning the European Physical Society" [Transcript] (1968, Jan. 30), Folder Meeting of the Steering Committee in Geneva 30/01/1968, EPS, Fondo Archivistico Gilberto Bernardini, Centro Archivistico della Scuola Normale Superiore, Pisa, Italy (hereafter, AGB/EPS).
[9]De Ménil (1977); Ludlow (2007); Soutou (2007).
[10]Lerner (1962); Riffault (1962); von Stackelberg (1962).
[11]Haas (1958).
[12]Loth (2015).
[13]Greece had joined the six inner countries in 1961, but its membership would be suspended in 1967 as a consequence of the military coup d'état.

A counter-balance to the apparent setback of Western European integration was the period of détente in Europe, forcefully promoted by De Gaulle. In the mid-1960s, the polarity imposed by the rivalry of the two superpowers was contrasted by the foreign policies of some Western European countries. In the same period, attempts by Soviet Bloc countries to pursue policies of international relations that were more independent of Soviet leadership were also becoming apparent in Western Europe. As Jussi Hanhimäki has pointed out, the détente in Europe starting in 1962 was "first, and foremost, a *European* project."[14] Whatever De Gaulle's more subtle and nationalistic political strategies were, his rhetoric in favor of a united West–East Europe became particularly influential among the public.[15]

These broader political processes provided the historical conditions for the creation of the EPS. Greater emancipation from the United States on the part of continental Western European countries, internal reforms in certain Eastern European countries, an increasing optimism about the feasibility of supranational integration processes, political efforts to create bridges to overcome the Iron Curtain in Europe, all were indispensable in envisioning and pursuing the institutionalization of a pan-European physics community. However, it was the scientific status of physics in Western Europe, and more specifically at CERN, that initially provided the strongest motivation for creating a common society.

3 | CERN AND THE CONSTRUCTION OF EUROPEAN CULTURAL UNITY THROUGH PHYSICS

According to a narrative widespread among physicists, CERN played a fundamental role in the foundation of the EPS for two reasons. Firstly, it was the model of successful European scientific cooperation, and this, moreover, was not limited to Western Europe. (Based on the intergovernmental cooperation of Western and Central European countries, by the mid-1960s CERN had also become the site of regular collaborations with scientists working in Soviet Bloc countries.) Secondly, CERN provided the existing infrastructure for the EPS.[16] There is no doubt that CERN played this twofold role. Its instrumental position in the establishment of the EPS appears even more evident when one recognizes that the core group of actors behind the initial proposal to found a European physical society was composed of nuclear and particle physicists who were, or had been, involved in research at CERN. It is not an overstatement, then, to claim that CERN was the cradle of the society in many different ways: as a model, as an infrastructure, and as the venue for the formation of a transnational network of individuals.[17]

CERN, however, did not only play a positive role as the arena where the idea took shape, spread, and was eventually realized. More in-depth historical scrutiny of how a European physical society became a priority for Bernardini and other leading physicists at CERN shows that the role of the laboratory was much more complex. By 1965, the year of the Bologna conference, CERN was perceived only partially as a scientific success. In 1960, there had been much anticipation of the first planned experiment to be performed with the 24 GeV Protosynchroton (PS), which for a few months enjoyed the status of the most powerful accelerator in the world. Priority was given to an experiment designed to test whether there was more than one type of neutrino. Proposed by Bernardini himself, this experiment was seen as having a potentially Nobel-Prize worthy outcome. The preparation for the experiment, however, made evident the many problems European physicists faced in learning how to do big physics.[18] Eventually, a similar experiment was successfully performed by a U.S. team at the newly established Alternating Gradient Synchrotron at the Brookhaven National Laboratories (BNL). This was a serious setback for European physicists and for the aging

[14]Hanhmäki (2010, p. 198). Emphasis in the original.

[15]See, for example, the Google Ngram Viewer diagram of the expression "Atlantic to the Urals" between 1920 and 1980 in books digitized by Google. In spite of the limitations to the reliability of this sort of analysis, the spread of the vision publicly expounded by De Gaulle in the late 1950s is evident. See also Anceau (2016).

[16]"1968 The Foundation of EPS" (2018); Voss (2018).

[17]For CERN as a model of European technoscientific cooperation, see Kohlrausch & Trischler (2014, pp. 208–216).

[18]Hermann, Krige, Mersits, & Pestre (1990).

Bernardini himself, as it was his last opportunity to make a historical discovery.[19] In the next few years, very precise measurements were performed at CERN, but the main breakthroughs in experimental particle physics were all made at the BNL.[20] Clearly, by the mid-1960s, European high-energy physicists had reasons to believe that there was a large gap between the scientific and organizational practices of the U.S. research environment and their own, which could not be solved simply by constructing large accelerators.[21]

At exactly the same time, scientists and policymakers at CERN were debating the next generation of accelerators to be built. This discussion also came to involve the future of the national research programs of CERN member-states. Within this context, a coordinated action was planned: the European high-energy pyramid. The pyramid was conceived as an international infrastructure of small- and medium-size accelerators in CERN member-states at the base of the pyramid, while the apex consisted of the most powerful accelerators at CERN. The pyramid scheme gave the particle physicists of CERN member-states a powerful argument to use with their own governments in promoting the construction of new accelerators. Two of the physicists most involved in promoting the pyramid scheme were Bernardini and the director of the Max Planck Institute for Nuclear Physics, Wolfgang Gentner. The latter, in particular, was campaigning in his home country and within the Max Planck Society for nuclear and high-energy physics to be expanded with the construction of a synchro-cyclotron for high-energy protons as a joint project between Heidelberg University and the Max Planck Institute for Nuclear Physics in Heidelberg. In his personal struggle against the dominance of theoreticians over the planning of experimental programs in large laboratories, Gentner saw his own interests, as well as those of national and international experimental particle physicists, to be strongly interwoven with the CERN-based pyramid scheme, the apex of which would be the planned 300 GeV accelerator, which Gentner lobbied to have located in West Germany.[22]

In June 1965, when the decision concerning the future accelerators was still being debated by CERN member-states and support seemed to be lacking for the immediate funding of a new 300 GeV machine, Bernardini and Gentner drafted a document titled "On the Relation Between National and International Programmes," addressed to the CERN Scientific Policy Committee. Bernardini and Gentner argued that it was necessary to challenge the perilous and widespread view that expensive laboratories were "an extremely costly self-generating [s]cience" that would be of "benefit [to] a small company of 'initiates.'" In order to do so, they put forth an ambitious plan: situating medium-size accelerators, at the base of the high-energy pyramid, in physics departments, which would result in the annual training of many PhDs. This purely technoscientific goal of supporting the socio-professional interests of a specific group of Western European physicists connected to CERN was enriched by lending political substance to the initiative. Bernardini and Gentner stressed that their program would favor the spread of a "European scientific culture unbounded by those more humanistic than scientific traditions which were … one of the most serious obstacles to the development of Europe as a nation."[23] Thus, their project was framed in very strong terms as a diplomatic endeavor that provided material means to realize the *cultural unification* of Europe in support of European political integration. In 1968, this would become one of the two justifications for the establishment of the EPS that Bernardini put forward.

The intellectual sources Bernardini and Gentner drew from in their proposal for European accelerator physics as the framework for supporting European political integration were not the theoretical approaches to the integration

[19]Guy von Dardel wrote to V. Weisskopf on June 3, 1961: "My first reaction was one of complete unbelief and shock that the top priority experiment at CERN, one of the biggest and most complicated and expensive, and important experiments ever done in nuclear physics, which involv(ed) three physics groups with two bubble chambers, one cloud chamber, and enormous counters, which taxed to the utmost a big organization's resources in money, manpower, shielding blocks and installations, and which is directly under two of CERN's directors, should be so badly prepared that a complete outsider like me, can … show an error of almost one order of magnitude in the intensity, which is the most vital parameter in the experiment." Quoted in Hermann et al. (1990, p. 221).

[20]These were the discoveries of the CP violation in 1963 and of the Omega-minus particle in 1964. See, e.g., Pais (1986).

[21]Pestre & Krige (1992).

[22]Carson (2010); Trischler (2006). On Gentner, see Hoffmann & Schmidt-Rohr (2006).

[23]Bernardini, G., & Gentner, W. (1965, Jun. 14), "On the Relation Between National and International Programmes: 35th Meeting of the Scientific Policy Committee," CERN/SPC/0205 (http://cds.cern.ch/record/41479/files/CM-P00095049-e.pdf). Hereafter, the document is referred to as Bernardini & Gentner (1965).

process that were in vogue at the time. The latter were usually based on functionalist or institutional perspectives that did not consider European identity as playing any relevant role in the process.[24] The two physicists were instead influenced by the spreading idea that European countries had one and the same culture, which had been fostered by policies implemented by the Council of Europe since the mid-1950s. While the main overarching theme of building a European identity was certainly connected to the defense of human rights promoted by the Western member-countries of the Council of Europe, there were also considerable attempts to fabricate a more general understanding of European "cultural unity," which explicitly included links with Eastern Europeans.[25]

A central figure in spreading this perspective from the late 1940s was Swiss philosopher and writer Denis de Rougemont, who related his political activism for Western European federalism to the idea of European cultural unity. According to de Rougemont, this cultural unity was constituted of shared anti-totalitarian values based on a deep commitment to "a notion of humans and freedom."[26] In his view, the majority of Europeans—including, in principle, those living in the Eastern part of the continent—shared these values, which were essentially centered on the concept of individual freedom. In his explicit opposition to the Soviet regime, he maintained that the ideological borders around those culturally united would include the entire Europe, but that Soviet military rule made it impossible, in practice, to enact these values in the Soviet Bloc countries. A key member of the Cultural Committee of the European Movement and actively involved in the creation of the Council of Europe in 1949, de Rougemont became director of the European Center for Culture, established in Geneva in 1950 to promote the idea of "European spiritual unity."[27] De Rougemont held significant roles in various initiatives aimed at promoting political goals through cultural activities, often with open anti-communist objectives, especially in his capacity as president of the executive committee of the Congress for Cultural Freedom (CCF). Established in 1950, the CCF was an advocacy group that sought to counter the view that communist policies were more compatible with cultural endeavors than liberal democratic policies. Covertly financed by the U.S. Central Intelligence Agency, the CCF was one of the most successful instruments of the US-sponsored cultural Cold War in promoting Western ideals and a sense of shared values between the two sides of the Atlantic until the mid-1960s, when its connection with the CIA became public and many of those who had taken part in its activities distanced themselves from it.[28]

Within the initiatives of the Council of Europe, the Committee of Cultural Experts organized a round table in Rome in 1953, titled "The Spiritual and Cultural Unity of Europe and the Mission of Europeans in the Contemporary World" and chaired by de Rougemont himself.[29] These topics remained central to the establishment of the European Cultural Convention in 1954 and the Council for Cultural Co-Operation in 1962. Not only were many of these activities framed in terms of a common historical European heritage, but, in the early 1960s, the Assembly of the Council of Europe also voted to explicitly promote the concept of "cultural unity" by preparing promotional material to be diffused to organizations and by recommending the increase of cultural and scientific exchanges with Eastern Europeans.[30] These programs were based on the "need to educate the public in European citizenship and foster a

[24]Davis Cross (2012).

[25]"Creation of a European Fund for Exiles, Administered by a Specialized Agency Placed Under the Supervision of the Council of Europe" [Report] (1951, Nov. 26), Parliamentary Assembly of the Council of Europe, Doc. 61, (http://www.assembly.coe.int/nw/xml/XRef/Xref-XML2HTML-en.asp?fileid=273&lang=en); de Rougemont, D. (1955, Nov. 7), "Raising the Cultural Curtain. Role of the Council of Europe in Promoting Cultural Exchanges between East and West—Consultative Assembly, Committee on Cultural and Scientific Questions" [Manuscript], AS/CS (7) 25 (https://rm.coe.int/09000016807a206c). For the defense of human rights as a common cultural theme in the making of the European identity, see Buchanan (2010).

[26]De Rougemont (1948). For de Rougemont's ideas on European unification, see Andrén (2020); Ousselin (2006).

[27]"The European Centre for Culture" (2016).

[28]Krige (2006); Saunders (2013); Scott-Smith (2001).

[29]"The Spiritual and Cultural Unity of Europe and the Mission of Europeans in the Contemporary World" [Round table] (1953, Oct. 13–16), Directorate of Information, Council of Europe, IP/639 (https://rm.coe.int/0900001680726750).

[30]"Civic Education and the Training of European Citizens: Course Organized by the Italian government Under the Auspices of the Council of Europe" [Course program] (1961, Sept. 12–23), St. 6 (61) 3 (https://rm.coe.int/0900001680771d4f); "Development of Cultural Co-operation in Europe" (1961), p. 5, Resolution 214, Parliamentary Assembly Council of Europe (http://assembly.coe.int/nw/xml/XRef/Xref-DocDetails-EN.asp?FileID=15630&lang=EN); "The Cultural Unity of Europeans" [Commentary slides] (1961, Oct. 6), Cultural Directorate, Council of Europe, Je (61) 36 (https://rm.coe.int/09000016807718ab); "Establishment of Cultural Links with Polish People" (1961), Recommendation 291, Parliamentary Assembly Council of Europe (http://semantic-pace.net/tools/pdf.aspx?doc=aHR0cDovL2Fzc2VtYmx5LmNvZS5pbnQvbncveG1sL1hSZWYvWDJILURXLWV4dHIuYXNwP2ZpbGVpZD0xNDMyOCZsYW5nPUVO&xsl=aHR0cDovL3NlbWFudGljcGFjZS5uZXQvWHNsdC9QZGYvWFJlZi1XRC1BVC1YTUwyUERGLnhzbA==&xsltparams=ZmlsZWlkPTE0Mzl4).

consciousness of Europe's cultural unity."[31] Plausibly, by the mid-1960s, the view of a European cultural unity embedded in a common continental history became a widespread trope among Western European elites and an ideological basis for further projects of actual scientific and cultural coordination across borders in the European framework.

Bernardini's and Gentner's focus on the cultural unity of Europe closely follows the rhetorical tools that were being employed by de Rougemont and the Council of Europe's initiatives at exactly the same time. In view of their strong involvement with CERN's research activities, Bernardini and Gentner were in a particularly suitable position to be immersed in these cultural discourses. CERN was the most ambitious intergovernmental project of scientific cooperation at the (Western–Central) European level. Since 1949, members of the European Movement had been among the early promoters of the laboratory, including, notoriously, de Rougemont, who had argued for a joint international scientific laboratory as a step toward stronger cultural and political European integration.[32] When Bernardini and Gentner were working at CERN, de Rougemont and the European Center for Culture were actively involved in spreading the concept of European cultural unity in Geneva.

One might wonder, then, whether the ideological linkage between the discourse of European cultural unity and anti-totalitarian values, so explicit in de Rougemont, was also embedded in Bernardini's and Gentner's vision at the time. To answer this question, it is important to recognize that the Europe the two physicists were referring to at the time was an entity defined by membership at CERN, which means they were implying the process of integration in *Western* Europe. In this context, Bernardini and Gentner did not consider the ideological divides across Europe, as they took it for granted that Western European countries were already committed to a set of liberal, anti-totalitarian values, like those promoted by de Rougemont. In addition, the political and ideological discourse on notions of culture and values was quite vague in this document, since personal political views were not made explicit in these sorts of institutional records. One might hypothesize that there were ideological rifts within the physics community, but the archival sources my analysis is based on do not contain any explicit discussion on these more elaborated and, plausibly, conflictual views. These archival records only show that, at this stage, two of the leading protagonists seemed to be well aligned with the view promoted by de Rougemont, and that this view would be later embedded in the EPS's programmatic outlook.

To sum up, in 1965, Bernardini, Gentner, and other leading particle physicists related to CERN were trying to establish an integrated multinational framework at the Western(–Central) European level, which included research and training, in the context of competition with the more successful U.S. high-energy physics. This project did not go unquestioned within the scientific and political circles of CERN member-states. In order to justify and promote these projects, Bernardini and Gentner aimed to give the field of high-energy physics "a broad and solid cultural value" by appropriating the arguments spread at the time by the Council of Europe and other cultural organizations to bolster cultural cooperation as a way of advancing political integration.[33] Bernardini and Gentner, however, articulated these themes in very original terms: the physics project they promoted was much better suited to achieving their goal of a common recognition of European cultural unity, rather than humanistic traditions that were more prone to showing the divisive characteristics between the various cultures of European nations. Underscoring the fact that human societies were increasingly affected by science and technology, the two physicists argued that the institutional and economic forces in the process of European integration should be sustained by moral and cultural forces related to "an effective modern scientific culture."[34] In this way, Bernardini and Gentner confronted the risk of the public perceiving big particle-physics laboratories as an expensive and useless technoscientific playground by providing a

[31]"Draft Report First Meeting Committee on Out-of-School Education, Study Group Popular Education/Adult Education" (1962, Mar. 20–23), CCC/EES/Misc (62) 6 (https://rm.coe.int/0900001680725c2c); "XII Course of European Studies" [Program course] (1962, Sept. 14), CCC/EÉS/Inf (62) 36 (https://rm.coe.int/0900001680725b66).

[32]Hermann et al. (1990, pp. 68–69); see also Schopper (2009, pp. 179–183).

[33]Bernardini & Gentner (1965, p. 1).

[34]Bernardini & Gentner (1965, p. 6). In part, this argument was reminiscent of a plea for the role of pure science, in the European culture, as providing motivation to financially support the expensive high-energy physics laboratories set up by English cosmic-ray physicist and Nobel laureate Cecil. F. Powell a few months earlier: Powell (1964).

completely different image of these endeavors. Physics was presented as the common European language, and physics laboratories as arenas suitable for the pursuit of political action toward greater integration. This view became a kind of mantra for the particle physicists involved at CERN, who consistently depicted the CERN climate as being particularly favorable to an international scientific cooperation beyond the influence of politics.[35]

4 | THE BIRTH OF THE EPS IN ITALY

While the role of physics in human societies and the cultural unity of Europe would become major tropes in the public discourse on the foundation of the EPS, there were very practical concerns that prompted Bernardini to become a major promoter of greater European cooperation in physics. The future of particle physics in Europe was only one of two problems that concerned Bernardini at the time. The other problem was the status of physics journals in Europe. As president of the Italian Physical Society and managing editor of the society's periodical, *Il Nuovo Cimento*, Bernardini felt very strongly about the difficulties faced by European physics journals, especially in light of the success of the American Physical Society's publications, *The Physical Review* and its various sister- and sub-journals.[36] Bernardini and other leading European physicists considered European journals to be too numerous, of lower quality, and influenced by local and national interests. Bernardini initiated attempts to improve the status of *Il Nuovo Cimento* as soon as he became managing editor in 1963.[37] By 1965, he had resolved that the best strategy for modifying the publishing practices of the journal would be a process of internationalization: in the editorial board, in the authorship of the journal, and, more importantly, in the standardization of refereeing practices.[38]

The future of large laboratories and of physics journals in Europe, both in a framework of increasing competition with the US, led Gilberto Bernardini to invite some non-Italian nuclear and high-energy physicists from Europe to the Congress of the Italian Physical Society, which was held in Bologna in November 1965.[39] The discussions at the Bologna congress were carefully engineered to individuate the problems of the physics enterprise that could be effectively addressed through greater European cooperation.[40] In line with this scheme, at a dinner party during the congress Bernardini proposed the creation of a European forum for discussing the problems of physics journals, as well as of large particle-physics laboratories, in order to find common solutions.[41] The attendees welcomed the initiative, which was immediately implemented by Bernardini himself, with the support of the Italian Physical Society and the Italian government. A few months later, Bernardini organized the inaugural meeting of the proposed forum for European physicists, which was titled "Meeting on European Collaboration in Physics." Held in Pisa in April 1966, the meeting was extremely successful, as Bernardini was able to mobilize a large network of European physicists who had been closely collaborating with each other at CERN, and to secure political and financial support from the

[35]A few years later, Gentner made this claim explicit by underlining the diplomatic role of CERN in the international understanding in Europe, including the relations with the USSR and Soviet Bloc countries: Gentner (1971). On Gentner's view on the role of technoscientific collaboration and large laboratories in the process of European integration and in easing Cold War tensions, see Trischler (2006).

[36]For the editorial practices and diffusion of APS journals, see Kaiser (2012); Khelfaoui & Gingras (2019); Lalli (2014).

[37]Bernardini (1963).

[38]"[The] ever growing collaboration [of European and extra-European scientists] will not only contribute to a progressive reduction of publication time but—which in our eyes has much greater desert—ever more accentuate the international character of *Il Nuovo Cimento*." Bernardini (1965, p. viii). See also "Estratto del Verbale della 106a Riunione del Consiglio di Presidenza della SIF" (1965); "Estratto del verbale della 107a Riunion del Consiglio di Presidenza della S.I.F." (1965); "Lettera al Direttore del prof. R. Gatto e di un gruppo di professori di fisica" (1965). These discussions were held in connection with the establishment a new series of *Il Nuovo Cimento* starting from 1966, when it was split in two journals: *Il Nuovo Cimento A*, focusing on particle physics, and *Il Nuovo Cimento B* for papers in all other fields. It is worthwhile to note that this split occurred even earlier than a similar one implemented by the APS with the creation of *Physical Review A* and *Physical Review B* in 1970: Kaiser (2012).

[39]"Official inauguration" (1968); Bernardini (1972).

[40]"This year … more than ever we would like to share and discuss with some European friends how to improve in the future the activities we should maintain, and how to discontinue others more related to a too nationalistic and provincial past." Bernardini, G. to Gentner [Letter] (1965, Sept. 22), Nr. 72, Nachlass Wolfgang Gentner–Rep. 68A, III. Abt, Archiv der Max-Planck-Gesellschaft, Berlin, Germany (hereafter, NWG).

[41]Bernardini, G. to van Hove [Letter] (1966, Jan. 14), CERN-ARCH-DGR-LVH-105, CERN DG-Research, Léon Van Hove Collection, CERN Archives, Geneva, Switzerland.

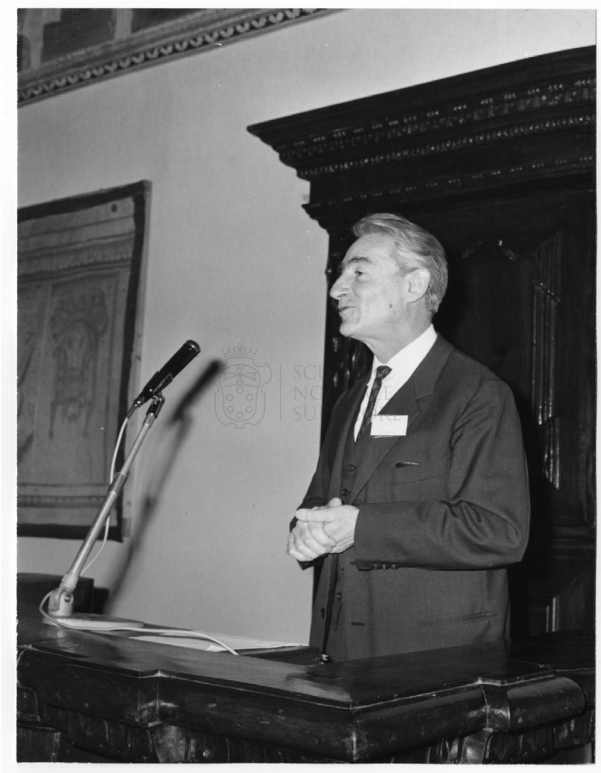

FIGURE 1 Gilberto Bernardini addresses the audience at the Pisa meeting in April 1966, Raccolta fotografica Scuola Normale Superiore, Meeting, Meeting on European Collaboration in Physics 16-17 Aprile 1966, Centro Archivistico della Scuola Normale Superiore, Pisa, Italy

FIGURE 2 Participants at the Pisa meeting in April 1966, Raccolta fotografica Scuola Normale Superiore, Meeting, Meeting on European Collaboration in Physics 16-17 Aprile 1966, Centro Archivistico della Scuola Normale Superiore, Pisa, Italy

Italian government. Sponsored by the president of the Italian Republic, Giuseppe Saragat, the meeting was attended by about 90 physicists (Figures 1 and 2).[42]

The problems chosen as topics of discussion confirmed the main interests of the physicists involved: physics publications, and the relations between large particle-physics laboratories and university departments. Even though

[42]Radicati & Zichichi (1966, p. 11). See also Gentner, W. to Bernardini [Letter] (1966, Apr. 27), Nr. 105/2–2, NWG.

Bernardini's introductory talk called the conference the first meeting of the "not-yet-born European Physical Society," the foundation of such a European society was only one of the four topics discussed during the meeting and was not necessarily perceived as the central one by the participants.[43] Many felt that the problem of publications was in fact the most pressing: "[i]t is the anarchy in scientific publication which we cannot tolerate much longer," as British theoretical physicist Frederick C. Frank put it.[44]

Participation was as selective as the choice of topics. Those attending the meeting were certainly not representative of the entire European physics community. It was European in the same sense as CERN: a community of nuclear and particle physicists who were already cooperating in various ways and who were mostly working on the Western side of the Iron Curtain. Under these circumstances, there was serious discussion as to whether it would make more sense to create a society for high-energy and nuclear physicists only, and perhaps to later extend membership to other fields. In his introduction, Bernardini explicitly recognized that the physicists attending the meeting did not represent the entire European community of physicists, but only a part—geographically, politically, and thematically. It was considered the right strategy, however, to set the agenda starting from this supportive network composed of people sharing similar experiences, concerns, and aims (a "group composed of friends and friends of friends" as Bernardini put it), and build a more representative society in a second stage.[45]

Of the four topics of the meeting, Dutch theoretical physicist Sybren de Groot had been asked to open the discussions on the question of "whether there is the case for a European society of physicists."[46] In his talk, de Groot supported the creation of a society with a much greater purpose than that envisioned when the Pisa meeting was being planned. He did so by identifying two main justifications for its establishment. The first one closely resembled the "European scientific culture" argument put forward by Bernardini and Gentner. Taking for granted that the European continent had one and the same culture, de Groot argued that physics, in view of its long-lasting international practices and its recent need for multinational cooperation on large-scale projects, was a suitable arena for the recognition and realization of this cultural unity. The second justification concerned the many useful, coordinating actions that this society might fulfill, especially by exporting the CERN model to other branches of physics.[47]

However, de Groot also underlined the difficulties in the construction of such a society, the most challenging of which was the necessity of defining its range of operation in connection to existing institutions, and especially to the national physical societies of European countries. This led to the problem of deciding what kind of structure the future society should assume, whether a free association of physicists or a federation of existing national societies.[48] In the discussion following de Groot's talk, the attendees decided that steps should be taken to form a comprehensive European physical society. A majority determined that the future society should not be limited to nuclear and high-energy physicists, but should include all the subdisciplines of physics in dedicated specialist sections.[49] The discussants, however, left the issue of the society's structure unaddressed. To this end, Bernardini was given the mandate to establish a working group and to ask the national societies for their opinions about the proposed society.

[43]Bernardini (1966, p. 12).

[44]Frank (1966). Some of the attendees even understood that the main issue was to discuss the future of *Il Nuovo Cimento*, which Bernardini hoped to transform into a European journal for nuclear physics. This conflicted with the status of the journal *Nuclear Physics*, which had been founded in 1956 as the preferred venue for publication of CERN-related research results. See also Vlachý (1968).

[45]Bernardini (1966, p. 13).

[46]De Groot (1966, p. 23).

[47]Apart from the relevance of the CERN model, which was later downplayed, these arguments were essentially identical to those later used by Bernardini when the society was founded. See "Official inauguration" (1968).

[48]This discussion quite closely resembled the then-ongoing discussions concerning different geopolitical views of the future of the European integration process as a confederation or federation of member states. See Loth (2015).

[49]Maraventano (1966).

5 | CONTROVERSY OVER TWO CONCEPTIONS OF AN INTERNATIONAL SOCIETY: A FREE ASSOCIATION OF INDIVIDUALS VERSUS A CONFEDERATION OF SOCIETIES

The majority of the attendees at the Pisa conference agreed to create a truly European physical society, which would include all physics fields, and possibly all European nations regardless of the political divide of the Cold War. Despite this agreement, the initial composition of the steering committee established to this end was still unrepresentative, both scientifically and geopolitically. It was limited almost exclusively to high-energy and nuclear physicists. Moreover, there were only two physicists working in Eastern Europe: Polish particle physicist Marian Danysz and Soviet plasma physicist Lev Artsimovich.[50]

At the time, Danysz was a natural choice for the preferential representative of Eastern Europe in physics. Like Bernardini, Danysz was a cosmic-ray and nuclear physicist. Since the 1950s, he had been building robust international networks thanks to his achievements in cosmic-ray research and through his connection to the CERN environment. He became one of the first two deputy directors of the international particle-physics center for the socialist countries, the Joint Institute for Nuclear Research (JINR), when it was established in Dubna, Russia in 1956. In this capacity, he tried to strengthen the links between the JINR and CERN and, more broadly, among European particle physicists by promoting the exchange of specialists in the 1960s.[51] In 1964, Danysz and CERN director-general Victor Weisskopf were successful in obtaining the status of CERN observer-member for Poland, the only Eastern European country to be granted this status.[52]

Since his welcoming address at the Pisa conference, Bernardini had made it explicit that the society he envisaged was based on a definition of Europe as an inclusive continent that overcame political barriers.[53] Bernardini immediately tried to involve the USSR in the initiative by inviting the Soviet nuclear and plasma physicist Lev Artsimovich to join the steering committee.[54] Unlike Danysz, the choice of Artsimovich as a possible representative of the USSR was not related to the CERN network. Plausibly, this was mostly due to the double role Artsimovich played in Soviet scientific-diplomatic affairs. Within the centralized Soviet scientific-political system, Artsimovich held a leadership position thanks to his role in the Soviet nuclear weaponry and energy programs.[55] In international relations, he was a well-respected Soviet spokesperson for international agreements on disarmament, which he pursued through his role as chairman of the Soviet Pugwash Committee from 1963.[56] Bernardini had the opportunity to meet Artsimovich a few months before he began to promote the idea of a European Physical Society, at the Pugwash conference in Venice in April 1965, of which Bernardini was chairman.[57] Apparently, however, these attempts to involve Artsimovich did not succeed. While Artsimovich continued to be listed as a member of the steering committee in official

[50]The membership of the steering committee increased over the months. The first official list of November 1966 contained 21 members beyond Bernardini: English accelerator physicist John B. Adams, who had been director-general at CERN in 1960–1961; Lev Artsimovich; West German theoretical physicist Fritz Bopp, former president of the German Physical Society; English particle physicist Clifford C. Butler, then chairman of the CERN Track Chamber Committee; Marian Danysz; Sybren de Groot; Israeli nuclear physicist Amos de-Shalit, chief executive of the Weizmann Institute of Science; US-based French mathematical physicist Cécile DeWitt-Morette, organizer of the Les Houches Summer School of Physics; Swedish physicist Sigvard Eklund, director-general of the International Atomic Energy Agency in Wien; Wolfgang Gentner; French physicist Bernard P. Gregory, then CERN director-general; theoretical particle physicist James Hamilton at NORDITA, Copenhagen; Swiss theoretical physicist Josef-Maria Jauch at the University of Geneva; Finnish theoretical nuclear physicist Pekka Jauho; Danish theoretical nuclear physicist Christian Møller; Spanish nuclear physicist José M. Otero, chairman of the Junta de Energia Nuclear in Spain; French nuclear physicist Francis Perrin, high commissioner of the French Atomic Energy Commission; CERN-based French physicist Charles Peyrou; British nuclear physicist Thomas G. "Gerry" Pickavance, director of the Rutherford High Energy Laboratory; Swedish physicist Erik Rudberg, permanent secretary of the Royal Swedish Academy of Sciences; Austrian-American theoretical physicist Victor Weisskopf, CERN director-general between 1961 and 1966. From this list, there is no need to emphasize the strong presence of elite physicists connected to CERN and nuclear physics. "List of the People Who Will Attend the Meeting of the Steering Committee at CERN" (1966, Nov. 25), Nr. 105/2–2, NWG.

[51]Lock (1975a; 1975b).

[52]"CERN Biographies—Marian Danysz" (1983).

[53]Bernardini (1966). This is also clear from his very first letter to proposed members of the steering committee, in which he mentioned the International Center for Theoretical Physics in Trieste as a possible location for the first meeting, because the center was "supposed to be a free 'zone of exchange' between East and West." Bernardini, G. to Gentner [Letter] (1966, May 26), Nr. 105/2–2, NWG.

[54]Bernardini, G. to Boris P. Konstantinov [Letter] (1968, Jan. 22), Folder correspondence K-L, AGB/EPS; "List of the People Who Will Attend the Meeting of the Steering Committee, CERN" (1966, Nov. 25), Nr. 105/2–2, NWG.

[55]Holloway (1994); Josephson (1996).

[56]Evangelista (1999).

[57]*Proceedings of the Fourteenth Pugwash Conference* (1965).

documents, he and the other Soviet scientists invited to the meetings never replied before early 1968, as was often the case given the Soviet Union's strong political and ideological control over participation in international programs.[58]

From the start, the major problem was the structure of the society. The most committed members of the steering committee firmly believed that in order to be vital and active, the society had to be a free association of individuals.[59] Representatives of national physical societies thought otherwise. Most of them pushed strongly against the free-association scheme in favor of a federation of existing national societies (or equivalent national bodies for countries where national physical societies did not exist). Most vocal in this attitude was the French Physical Society. In their detailed official assessment of the proposal for the EPS, the French Physical Society did not deem the establishment of a European society "une nécessité primordial." Many doubts were raised about the range of activities that a European society could actually perform, especially in relation to the coordination of scientific publications. To the French society, the real advantage of the EPS would be to favor East–West scientific exchanges through the inclusion of physicists from all Europe, "de l'Europe du CERN à celle de DOUBNA." And if this was the main purpose, the French society argued, the EPS had necessarily to be a federation of the existing national societies, both for financial and political reasons: it was much easier for Eastern European physicists to participate in the activities of such international bodies as representatives of institutional entities.[60]

In part, these arguments were true, especially for what the limitation to a free association of individuals would have implied for the participation of Eastern European scientists. Under the centralized organization of socialist countries, individuals could be members of international bodies only as official representatives of institutions such as national academies. This was the structure of international non-governmental institutions such as the International Council of Scientific Unions and the various international unions whose membership was based on the notion of national representation.[61] Participation in international societies based on individual membership posed enormous challenges to physicists in socialist countries.[62]

It is unclear, however, if the Western European physicists involved in the committee were fully aware of this issue.[63] Some members of the steering committee rather understood that some national societies were pushing for the formation of a federation of societies because their very existence would have been endangered by a strong and successful European association of physicists.[64] These members feared that if the society were created as a federation, it would become a bargaining forum where the largest and most powerful national societies would impose their own interests on the European society. This implied that the society would not be independent of politics, nor of the influence of national governments.[65] In this sense, the federative structure was viewed as a betrayal of the international spirit of the society as it had been initially envisaged.[66]

[58]Various lists of the steering committee from 1967 to 1968 in AGB/EPS. Bernardini reported about the lack of replies from Artsimovich and other Soviet scientists in Bernardini, G. to Boris P. Konstantinov [Letter], (1968, Jan. 22), Folder correspondence K-L, AGB/EPS. For more on the framework of the Soviet-controlled participation in international programs of Eastern European scientists, see Olšáková (2017; 2018).

[59]Peyrou, for example, wrote: "There is a strong wish among many physicists that the European Physical Society should be based on individual membership. Only in this way can the society be a living and active body." Peyrou, C. to Bernardini [Letter] (1967, Apr. 25), Nr. 105/2–2, NWG. Similar views were expressed in Jauch, J.-M. to Bernardini [Letter] (1966, Apr. 26), Folder correspondence I-J, AGB/EPS.

[60]Societe Française de Physique (1967, Jan.), "Societe Europeenne de Physique" [Manuscript], Nr. 105/2–2, NWG.

[61]Greenaway (1996).

[62]For the importance of this issue in what concerns the participation of Soviet scientists in international scientific bodies, see Lalli (2017). For the East German case, see Niederhut (2007).

[63]In his response, the president of the Polish Physical Society, Wojciech Rubinowicz, strongly argued for the federative solution, emphasizing the difficulties for Eastern European physicists, but mostly on the grounds of financial obstacles rather than political impediments. Rubinowicz, W. to Bernardini [Letter] (1966, Jul. 8), Nr. 105/2–2, NWG.

[64]Jauch, for example, expressed this concern in the following terms: "It seemed to me obvious, from the beginning, that the society would have individual physicists as members, and nothing that I heard during the meeting convinced me otherwise. In fact, I could not understand why this question came up at all, until somebody pointed out to me that certain national societies might feel threatened by the existence of a strong and successful European society." Jauch, J.-M. to Bernardini [Letter] (1966, Apr. 26), Folder correspondence I-J, AGB/EPS. Identical views are in Peyrou, C. to Bernardini [Letter] (1967, Apr. 25), Nr. 105/2–2, NWG.

[65]Béné, G. (1966, Nov.) "A propos d'une Future Societé de Physique Européenne: Adhésions individuelles ou fédération de societés nationales? (FSN) Réfléxions basées sur le fonctionnement du Groupement et des colloques Ampère entre 1552 et 1966" [Manuscript], Nr.105/2–2, NWG; and Béné, G. (1967) "For a European Physical Society," Nr.105/2–2, NWG.

[66]"The influence of the national physical societies should certainly not be too high because, otherwise, it would completely change the character and the scientific goal of this new association." Gentner, W. to Bernardini [Letter] (1968, Mar. 4), Nr. 105/2–1, NWG.

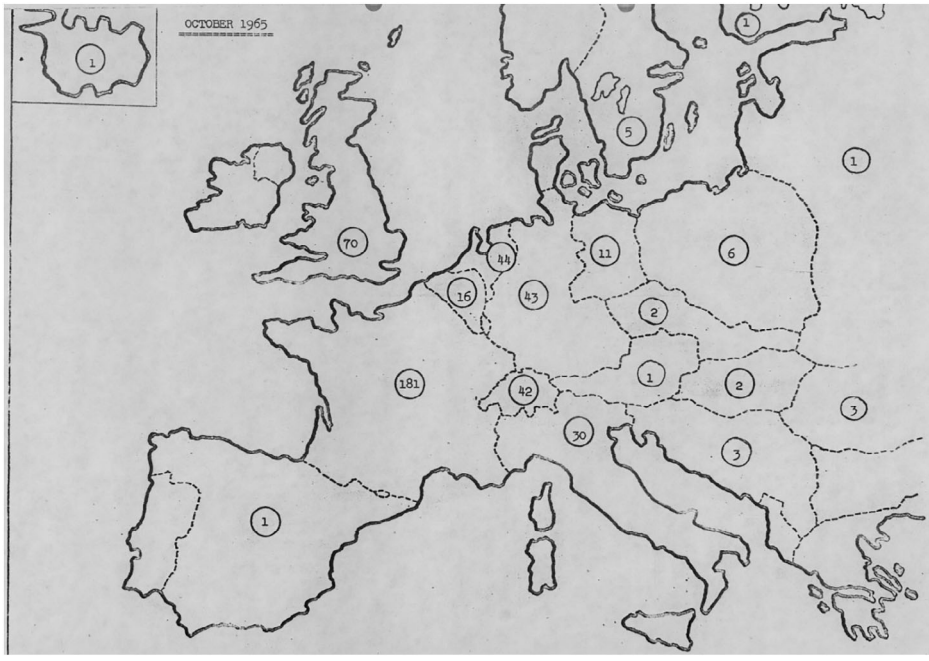

FIGURE 3 Composition of the Ampère group in October 1965. Numbers correspond to the amount of individual members for each European country. In Béné, G. (1967), "For a European Physical Society," p. 9, Nr.105/2–2, NWG

A subtler political problem with the federative structure concerned the definition of Europe. This problem was identified by two physicists who became particularly active in providing possible structural solutions for the society to prevent it from becoming a federation of national societies. These were Swiss experimental physicist Georges Béné and French experimental physicist at CERN Charles Peyrou. They voiced their concerns that the federative solution would imply the necessity to clearly define European borders by selecting which national associations had the right to become members. The political problems this posed were substantial. What should be done about the USSR and the German Democratic Republic (GDR)? (At that time, the GDR was not recognized by many European states, and the Federal Republic of Germany [FRG] had implemented the Hallstein Doctrine in foreign policy so that recognition of the GDR would be considered an unfriendly act.) Or what to do with non-European Mediterranean countries, such as Israel and Turkey? Discussions on these problems were considered extremely dangerous as they threatened the very existence of a society that had not yet been created.[67]

Béné was an expert in these matters because he had been involved since the early 1950s in the construction of grassroots international scientific associations as the permanent secretary of the Groupement Ampère, an international scientific association of magnetic resonance specialists. Established in 1952 as a France-based initiative, the semi-informal Groupement Ampère had been growing significantly in the international arena, and even included Eastern European scientists.[68] Because of the success of the group (see Figure 3), it was also proposed as a possible model for the EPS, and Béné would be included in the steering committee by virtue of his experience.

To overcome these difficulties, Peyrou advanced a model that he declared to have been borrowed from the federal constitution of Switzerland. Peyrou proposed two kinds of membership: individual and corporate, both of which could be represented in the governing body of the society, with a slight majority for representatives of individual

[67]Peyrou, C. to Bernardini [Letter] (1967, Apr. 25), Nr. 105/2–2, NWG; "A propos d'une Future Societé de Physique Européenne: Adhésions individuelles ou fédération de societés nationales? (FSN) Réfléxions basées sur le fonctionnement du Groupement et des colloques Ampère entre 1552 et 1966" [Manuscript], Nr.105/2–2, NWG.
[68]Béné (1965; 2005).

members. Members of the steering committee and delegates of the national societies were to meet twice within 1 year to find a negotiated solution to the two extremes: a federation or a free association of individuals. At the committee meeting held in London in May 1967, an agreement was reached that followed and extended the proposal made by Peyrou, who later confessed that the only reason he joined these early discussions was to try to prevent the society from taking the form of a federation of existing national societies.[69]

A parallel but far less contentious issue concerned the role of the society with respect to different sub-disciplinary domains. After the first meeting of the steering committee in Geneva in November 1966, the future society's coordinating framework for organizing dedicated international conferences at the European level was considered more useful to areas of research other than those of nuclear and high-energy physics, which constituted the core disciplinary domain of most members.[70] By the same token, a proposal was made to include "a reasonable representation of the main field of physics in the executive committee" in order to avoid a lack of equilibrium among the fields in the society.[71]

In London, the first draft constitution of this hybrid society was prepared, including both individual and corporate membership. While such a mixed solution had been proposed very early on in the negotiations, the distribution of powers between representatives of national societies and representatives of individual members in the council and its executive committee remained controversial. While the proponents of the free-association scheme demanded greater representation for those elected by individual members, the final outcome gave national societies a stronger weight in the council. The issue was finally solved by defining the individual members of the participating national societies as individual members of the EPS. The constitution, however, maintained the idea that most elected members of the council were representatives of national societies. This was also the impression that was communicated in public, where the society was soon described as a "loose federation of national physical societies, with provision for individual membership."[72]

Apart from the structure of the society as a hybrid individual-corporate association, the main point of contention at the London meeting concerned the function of the society. In the discussion, the national societies achieved that the role of the EPS was considerably scaled down from the initial ambitions. The society was defined as "a service organization i.e. providing interchange of information, organizing conference[s] and other meetings, co-ordinating publications. It is not intended as a *quasi-political* organization attempting to re-organize physical research, for example, on a supra-national basis."[73] This definition was meant to implement the first point of the programmatic statement written during the previous meeting at CERN in November 1966, which drew a boundary between the EPS and the national physical societies, as requested by the latter.[74] This wording summarized the idea that the society should favor coordination between national societies, rather than being substituted for or competing with them. In addition, the society's activities should be limited to those areas that were deemed uncontroversial in terms of national interests. A few months later, in September 1967, an executive board of the steering committee was agreed upon in Geneva that would take care of all administrative and organizational issues.[75] Albeit not in the way that some had hoped for, in London "the society evolved from a concept into something definite—an effective new reality," as Bernardini would later recall.[76] By September 1967, the society had a draft constitution, an executive board, and initial plans for including the main areas of research in European physics.

---

[69]"I jumped into the breach because I saw a very strong danger in the pure federative European Physical Society." Peyrou, C. to Bernardini [Letter] (1968, Apr. 5), Folder correspondence O-P, AGB/EPS.

[70]"Frames of Activities of a European Physical Society, Working group Nr. 1" [Report] (1966, Nov. 25), Nr.105/2–2, NWG.

[71]Béné, G. (1967), "For a European Physical Society," Nr.105/2–2, NWG.

[72]Press (1968, p. 390).

[73]"Report on the Meeting of the Steering Committee of the European Physical Society, London" (1967, May 16), Nr. 105/2–1, NWG. Emphasis by the author.

[74]"The activities of EPS should be confined, on the whole, to areas not covered by the various national physical societies." "Frames of Activities of a European Physical Society, Working Group Nr. 1" [Report] (1966, Nov. 25), Nr.105/2–2, NWG.

[75]"Report on the Meeting Held in Geneva on 20 September 1967 to Settle the Secretariat of the Steering Committee" (1967, Sept. 20), Nr.105/2–1, NWG. The Bureau was composed of Bernardini as head, Mrs. Lorette Etienne-Amberg as scientific secretary, Gentner, Béné, J. M. Jauch, L. Jansen, and L. Cohen.

[76]Bernardini (1972, p. 36).

The hybrid society, however, still suffered from the political problems of the full federative solution, most notably the issue of how exactly to define Europe. Until the London meeting, Polish physicists had been the only representatives of Eastern European countries actively participating in the steering committee's meetings and correspondence exchanges. The hybrid character of the society now made it mandatory, in order to build a truly European (and not only Western–Central European) society, to soon obtain confirmation that a sizeable number of Eastern European physical societies could join immediately.

6 | COLD WAR DIPLOMACY: THE PRAGUE SPRING AND THE EASTWARD ENLARGEMENT OF THE EPS

In September 1967, the EPS board proposed a final meeting of the steering committee in Prague in order to increase the participation of physicists from the Eastern Bloc.[77] At Bernardini's request, Italian physicist Giuseppe Occhialini pursued informal attempts to discuss the matter with Eastern European physicists during the Marie Curie centenary symposium organized by the International Atomic Energy Agency in Warsaw in October 1967.[78] Occhialini reported that there was widespread enthusiasm about this project, but there were a number of points of contention as well. Occhialini pointed out that the steering committee membership contained a "diplomatic error." The West German exclusive mandate policy was implicitly accepted by listing the two West German physicists as coming from "Germany," which was politically unacceptable to Eastern European physicists. Moreover, Occhialini reported that "the proposed structure should be completely reviewed by a truly representative steering [c]ommittee containing an appropriate representation from Eastern Europe."[79] This, in part, might have been a request from non-Soviet Eastern European physicists to overcome the hierarchic structure of Soviet Bloc participation in international institutions, which Doubravka Olšáková dubbed "restricted internationalism."[80] Occhialini's assessment was immediately transformed into a strategy of contacting scholars in Central and Eastern European countries to significantly enlarge the membership of the steering committee with the inclusion of seven physicists from six socialist countries, taking into account the issue of national representation as well as the role of established national institutions in the choice of new members.[81]

The difficulties for physicists in socialist countries in joining a private international body as individual members were raised again at the first meeting of the new steering committee in Geneva in January 1968. The question was how to avoid the official involvement of national governments, considering that Eastern Europeans would only be able to join through corporate membership. In the discussion about fees to be paid from different countries, the issue was raised as to whether convertible currencies should be imposed, as had been done by international unions and the like. One of the new Eastern European members of the steering committee, Czechoslovak solid-state physicist Jan Tauc, emphasized that this rule would constitute a serious problem for Eastern European physicists and groups,

[77]"Report on the Meeting Held in Geneva on 20 September 1967 to Settle the Secretariat of the Steering Committee" (1967, Sept. 20), Nr.105/2–1, NWG.
[78]Maria Skłodowska-Curie Centenary Committee & IAEA (1968).
[79]Occhialini, G. to Bernardini [Letter] (1967, Nov. 6), Nr. 105/2–1, NWG.
[80]Olšáková (2019).
[81]Bernardini, G. to Occhialini [Letter] (1967, Oct. 13), Folder correspondence O-P, AGB/EPS; Etienne-Amberg, L. to Gentner, Jauch, and Cohen [Letter] (1967, Nov. 22), Folder Etienne-Amberg 1967, AGB/EPS. The seven physicists to be contacted were: Arthur Lösche (DDR), full professor at the Physics Institute of the Karl Marx University in Prague and long-standing member of Groupement Ampère; Jan Tauc (Czechoslovakia), director of the Institute for Solid State Physics at the Czechoslovak Academy of Sciences; Gyorgy Szigeti (Hungary), secretary-general of the Roland Eötvös Physical Society of Hungary; Robert Blinc (Yugoslavia), expert in the use of nuclear magnetic resonance in solid state physics at the Jožef Stefan Institute, and also a participant in the activities of Groupement Ampère; Ion Ursu (Rumania), director of the Nuclear, Physics, Optics and Electromagnetic Department and Vice-Rector of the University of Cluj; Lev Okun (USSR), renowned high-energy theoretical physicist at the Institute for Theoretical and Experimental Physics in Moscow; and Nobel Laureate Igor Tamm (USSR). "Report on the Meeting Held in Geneva on 14 November 1967 to Settle the Question of Place and Date for the Next Meeting of the Steering Committee" (1967, Nov. 14), Nr. 105/2–1, NWG. By February 1968, the membership of the steering committee had significantly increased to 40 members, and included representativeness of both national and sub-disciplinary communities (almost twice as many as the first steering committee): "List of the Members of the Steering Committee of the EPS" (1968, Feb. 28), Folder 1968 Finanziamenti Budget, AGB/EPS.

as the official involvement of national governments was mandated when using convertible currencies.[82] A majority accepted the request to keep the fees in non-convertible currencies on the grounds that, in spite of the hybrid structure that included corporate members, most still considered the new entity as having the status of a "free association" with "no connection to the governments" as a basic requirement.[83]

In the following months, Tauc was instrumental in the realization of the next meeting of the steering committee in Prague on May 3–4, 1968. The social and political conditions could not have been more fitting. The liberal reforms enacted in some of the countries in the Warsaw Pact, especially those in Czechoslovakia by the newly elected first secretary of the communist party of Czechoslovakia, Alexander Dubček, increased hopes for the strategy's success.[84] To facilitate the participation of Eastern European physicists in the society, opening a branch of the secretariat in an Eastern European country was also proposed at the Prague meeting. In the political climate of the Prague Spring, the choice of where to settle the future Eastern European logistic center fell on Prague, where the branch secretariat was to deal with financial and organizational matters of Soviet Bloc participation in the EPS.[85]

In this climate, the diplomatic function of the society was made public in a number of speeches. Bernardini opened the January meeting in Geneva with a university lecture that again emphasized the theme of European cultural unity based on common historical roots, in which the Renaissance had played a fundamental role. He described CERN as the model to be followed for the entire physics discipline in order to pursue greater cooperation in Europe. In other cases, international cooperation had been far less successful and had led to "general confusion which slow[ed] down the scientific and technical evolution so strongly recommended to our continent *in the race for primacy in the civilized world*." The EPS was publicly depicted as a way to challenge this confusion by linking all European physicists so that Europe could solve its problems in the path to becoming "in a maybe remote, but certain future a unique, highly civilized nation."[86] Similar views were expounded a few months later in a public speech by Czechoslovak nuclear physicist František Janouch, who was a central figure in the organization of the Prague meeting and would soon become a member of the EPS bureau. In a world that increasingly relied on science and technology, Janouch argued, extreme specialization and information overload seriously threatened the capacity of physicists to understand advances in other subfields, thus undermining the cultural value of scientific progress for "human civilization." The EPS was a way to solve this problem and to thereby "positively influence our divided world and civilization." This clearly implied a diplomatic role for the society. Like Bernardini, Janouch regarded the search for European unity in physics (with respect to both national and sub-disciplinary divisions) to be a contribution to "European cultural unity" and to East–West peaceful relations.[87] By the same token, the rector of the Charles University in Prague and a strong supporter of the Prague Spring, neurologist Oldřich Starý, enthusiastically welcomed the participants of the Prague meeting, emphasizing the fundamentality of scientific cooperation to the "awareness of the unity of European culture."[88]

[82]Tauc said: "IUPAP is different because it is an organization which is approved by the Government and so it is easier than the European Physical Society which will have another structure and I think it is quite essential that the fees could be paid also in non-convertible currency": "Outline of Legal Problems Concerning the European Physical Society" [Transcript] (1968, Jan. 30), Tape 4, p. 3, Folder Meeting of the Steering Committee in Geneva 30/01/1968, AGB/EPS.

[83]"Outline of Legal Problems Concerning the European Physical Society" [Transcript] (1968, Jan. 30), Tape 4, p. 3, Folder Meeting of the Steering Committee in Geneva 30/01/1968, AGB/EPS. This comment was made by Bernardini.

[84]Bernardini, G. to F. Šorm [Letter] (1968, Feb. 6); Tauc, J. to Bernardini [Letter] (1968, Feb. 29); Bernardini, G. To Tauc [Letter] (1968, Mar, 29), Folder correspondence S-T, AGB/EPS. Tauc was not a member of the Communist party and had been allowed to travel only because of his high scientific standing, as recognized by high-ranking Soviet scientists. During the Prague Spring, Tauc's situation significantly improved and he became director of the Institute of Physics of the Charles University: Cardona et al. (2011).

[85]"Information Bulletin Concerning the European Physical Society, Issued by the Geneva Secretariat of the Steering Committee" (1968, Jul.), p. 7, Nr. 105/1–2, NWG.

[86]Bernardini, G. (1968, Jan. 29), "First Steps Towards the Creation of the European Physical Society" [Speech], Folder Meeting of the Steering Committee in Geneva 30/01/1968, AGB/EPS. Emphasis by the author.

[87]Janouch, F. (1968, Apr.), "On the Foundation of a European Physical Society" [Speech], Folder Prague Meeting May 3–4, 1968, AGB/EPS.

[88]Starý, O. (1968, May 3), "Welcoming address in 'Report on the General Session,'" Folder 79.5, Series 7, Archivio Occhialini-Dilworth, Library of Physics Department, University of Milan, Milan, Italy (hereafter AOD).

While publicly celebrated as a major contribution to the recognition of European cultural unity, the eastward expansion of the society's participation made the definition of European borders a delicate matter of diplomatic contention between physicists, as some had anticipated.[89] In January 1968, the working group on the draft constitution had proposed changes to the constitution's text by allowing the participation of Europe's neighboring countries.[90] The vagueness in the definition of the composition of the society, however, constituted a major issue for Eastern European physicists, who pressed for stricter adherence to a geographical delimitation.[91]

The main reason behind the request to clearly define the European borders was to avoid the official inclusion of the Israeli Physical Society, because the Soviet Union and other Soviet Bloc countries had disrupted diplomatic relations with Israel after the Six-Day War in June 1967. International scientific meetings and conferences were deeply affected by this diplomatic rupture: Israeli scholars were prevented from attending meetings in Eastern Europe, and Eastern European scholars did not receive permission from their countries' political authorities to visit Israel. This situation was shattering to its very fundament the principle of the right to free circulation of persons, which international scientific bodies were trying to implement through official resolutions.[92] Eastern European physicists clearly saw the official inclusion of Israel in the EPS as a political issue.

Israeli physicists, on the other hand, had been very active in the establishment of the society since the earliest phases.[93] Israeli nuclear physicist Amos de-Shalit had been a member of the steering committee since its formation. Furthermore, the Israeli Weizmann Institute of Science had been one of the few organizations to have financially supported the society in the early phases, prior to its foundation.[94] By the time Eastern European physicists had actively joined the discussion, the inclusion of Israel was taken for granted by those from Western Europe. Even before the meeting in Prague, Bernardini tried to make the inclusion of Israel in the society a fait accompli for his Eastern European colleagues.[95] In Prague, Eastern European physicists made a last-ditch attempt to exclude Israel during the discussion about Article 2.1 of the draft constitution: "the purpose of the Society is and shall be to contribute to and promote the advancement of physics, in Europe and in *neighbouring* countries." They requested an explicit list of all the countries covered under this wording. However, Western European representatives in the constitution working-group firmly resisted this request, leaving the general assembly as the supreme authority on this matter, de facto assuring that Israeli institutional bodies would be accepted in the venture.[96]

The other major political issue was the participation of the Soviet Union. Even though some Western European physicists were not in favor of its inclusion in the society, it was soon realized that the involvement of the Soviet Academy of Sciences was essential to gaining maximum participation from Eastern European countries.[97] However, the participation of the Soviet Academy of Sciences and other national academies in Eastern Europe posed an

[89]"Working group A: Draft Constitution, Meeting of the Steering Committee" [Report] (1968, May 3), Nr.105/1–2, NWG.

[90]"The purpose of the Society is to contribute to the progress of physics in Europe and its neighbourhood." "Conclusions of the Working Group of the Draft Constitution, Meeting of the Steering Committee" [Report] (1968, Jan. 30), p. 1, Nr. 105/2–1, NWG.

[91]Excerpt from Letter from Professor Lösche (1968, Jan. 11), in "European Physical Society—Comments concerning Draft Constitution," p. 3 [Report], Nr. 105/2–1 NWG. Arthur Lösche had been the first East German physicist invited to become a member of the steering committee; see Béné G. to Lösche [Letter] (1967, Nov. 20), Folder correspondence K-L, AGB/EPS.

[92]For an emblematic case, see, e.g., Lalli (2017); Martinez (2019).

[93]Katzir-Katchalsky, A. to Bernardini [Letter] (1966, Jun. 13), Nr. 105–2/2, NWG.

[94]De-Shalit, A. to Bernardini [Letter] (1967, Dec. 1), Folder correspondence C-D, AGB/EPS.

[95]"The European frontiers are not at all rigid and fixed. Of course, they are not extended to all of the world, and the true European countries are to be considered in requests to join the future Society. However, such countries as Israel and the Arab States on the Mediterranean (as soon as physics is developed there to the extent or having an interest in participating in the Society) should be invited as well." Bernardini, G. to Danysz [Letter] (1968, Mar. 14), Folder correspondence C-D, AGB/EPS.

[96]"Working Group A: Draft Constitution, Meeting of the Steering Committee" [Report] (1968, May 3), p. 3, Nr.105/1–2, NWG. Later, one member of the steering committee stated: "There was quite a lot of heated argument whether any of the countries should be somehow separately dealt with or not … Israel was one of the countries involved. I think it was the great success of the Prague meeting that we got down to a common denominator and we thought it would be best if all these countries should join." Tape 1—EPS September 12th 1968—Geneva [Transcript] (1968, Sept. 12), p. 20, Folder European Physical Society 1968, AGB/EPS. Hereafter, the document will be referred to as "Tape 1" (1968).

[97]For example, "[I]f the Soviet Union is excluded, several of the eastern European countries may hesitate to join a European Physical Society." Thonemann, P. C. to Bernardini [Letter] (1967, Feb. 1), Nr. 105/2–2, NWG.

enormous problem for the envisaged structure of the society. On the one hand, by the time the Prague meeting had taken place, it had been recognized that corporate membership was essential for the participation of Eastern Europeans. On the other hand, it was a fundamental principle that the EPS should not be intergovernmental. This principle implied that government-based corporate bodies—such as the national academies of science in socialist countries—were not to be accepted, so that the activities of the EPS would maintain political independence as far as possible.[98] Only formally independent scientific entities, outside or within national academies, could be admitted as members of the EPS. Therefore, national academies had to form independent specialized groups to join the society. The strategy of the EPS bureau was to involve the Soviet Academy of Sciences by emphasizing this point, but without mentioning any political motivation.[99]

Independently of this issue, the participation of the Soviet Union posed other political problems that were discussed among physicists and scientific institutions *within* the Soviet Bloc. While most Eastern European national physical societies (or comparable bodies) were in favor of joining the EPS, the Soviet Academy of Sciences was against it. The Soviets had never replied to Bernardini's early invitation to enter the discussions. The first meeting they attended was the one in Prague, to which Kocetkov and Leshkovtsev were sent as Soviet Academy delegates, plausibly with the main goal of influencing the draft constitution.[100] After the Prague meeting, the Soviets confirmed their negative attitude and remained undecided about whether to join the society. The presidium of the Soviet Academy of Sciences, under pressure from physicists of other Eastern Bloc countries, discussed the matter again at the 10th International Conference on Physics of Semiconductors, during which Tauc seems to have played a major role.[101] After these negotiations, the Soviet Academy of Sciences resolved to join the society for purely political reasons. While the academy deemed the EPS unnecessary, or even detrimental, the Soviets did not want to show disunity within the Soviet Bloc with respect to this matter.[102]

After this major decision, there was widespread optimism that the society would be established on September 26, 1968, with institutional representation from national physics groups from all, or at least most, of Europe. The invasion of Czechoslovakia on August 21, 1968, however, completely disrupted this optimism little more than 1 month before the official inauguration of the EPS. This event deeply disturbed those physicists who considered the society as a step toward the cultural and political unity of Europe and viewed the liberal reforms in some socialist countries as a positive condition for fulfilling this plan. Janouch sent Bernardini a letter a few days after the invasion, calling for a scientific boycott of Soviet conferences and of Soviet delegations at conferences abroad. Janouch asked his Western European colleagues to "let [Soviet scientists] share in the shame and feel their responsibility for their country and government."[103]

[98]The Secretary of the French Physical Society, Francis Netter, said: "We have stressed the point that we wish essentially to have here a body of free physicists meeting together for discussing matters of common interest and expressing views freely without any reference to any governmental policy. We cannot do so and agree simultaneously on having our budget mainly constituted by money given by governments." "Report on the General Session, Meeting of the Steering Committee" [Transcript] (1968, May 3), Folder 79.5, Series 7, AOD. This principle was generally accepted by the steering committee, but the question of how to implement this rule remained ambiguous, because the influence of national governments in official scientific groups varied greatly from country to country.

[99]"Academies cannot be accepted …. Concerning, e.g., the USSR Academy, write that Professor X,Y have already been invited to join the S.C., but that they did not answer until today. We can only invite individual (members of the academies), because the Academy has no right to vote. Explanation: (not to give political reason), but say that a[n] Academy consists of many various branches and not only of Physics Group[s]. If then, they want to form a National Society, the better." "Meeting of the Bureau of the Steering Committee, Geneva" [Transcript] (1968, Jun. 11), p. 3, Folder European Physical Society 1968, AGB/EPS.

[100]This might be hypothesized from the fact that both Soviet scholars voluntarily joined the working group on the draft constitution. "Report Working Group A: Draft Constitution at the Meeting of the Steering Committee, Prague" (1968, May 3–4), Folder Prague Meeting May 3–4, 1968, AGB/EPS. Unfortunately, it is not easy to properly identify these individuals, as first names' initials are not used in the documents and the surnames might have been misspelled. Leshkovtsev was probably Vladimir A. Leshkovtsev, Secretary of the National Committee of Soviet Physcisists; Kocetkov was perhaps nuclear physicist Lev A. Kochetkov.

[101]Štrbáňová & Kostlán (2011, p. 528); Cardona et al. (2011).

[102]Janouch (1993). This reconstruction is based on the later recollections of the Czechoslovak physicist František Janouch. For reasons that will become clear in the following paragraphs, he might not be considered a neutral witness, but his later recollections are completely confirmed by some immediate descriptions of the events in "Tape 1" (1968). See also Tauc, J. to Alfred Kastler [Letter] (1968, Aug. 7); Tauc, J. to S. F. Edwards [Letter] (1968, Aug. 7); Bernardini, G. to Tauc [Letter] (1968, Aug. 20), Folder correspondence S-T, AGB/EPS.

[103]Janouch, F. to Bernardini [Letter] (1968, Aug. 24), Folder correspondence I-J, AGB/EPS.

7 | PHYSICS AS A DIPLOMATIC TOOL: THE FOUNDATION OF THE EPS AS A RESPONSE TO THE INVASION OF CZECHOSLOVAKIA

While politics had been part of the discussions about the foundation of the society from the very first stages of this initiative, the attempt to expand participation in the society eastwards required the tranformation of verbal concerns in diplomatic plans of action. Until August 1968, balanced diplomatic moves had been successful in increasing the participation of Soviet Bloc countries, while also allowing Israeli participation. The invasion of Czechoslovakia resulted in a severe crisis in which overly political positioning became a central matter of debate.

On September 5, the board members were supposed to meet in Geneva to discuss the last details of the society's inauguration, but the discussion shifted to the new political situation and whether the society should be founded at all under these circumstances. The members of the board decided to establish the society as planned, but to send a letter to national societies and groups from the five countries involved in the invasion of Czechoslovakia, asking them not to join the society for the time being. The letter was deeply political and contained a firm condemnation of the actions undertaken by the Soviet Bloc countries involved in the Czechoslovak crisis:

> You will no doubt understand that in view of the recent events your participation at our constituting assembly had become impossible. Our society stands on the principles of respect for the freedom of individuals and the sovereignty of nations, large or small. These principles have been and are continued to be violated by the powers who rule your country, thereby excluding yourselves from the Community of nations who adhere to these principles. We must therefore request you to abstain assisting at our meeting until normal conditions are reestablished.[104]

If sent, this letter would have certainly led to a purely Western–Central European society. But it was never dispatched. After having discussed the matter carefully over the phone with Tauc, the board members decided that it was necessary to call for an urgent meeting of the steering committee at large before compromising a core element of the initiative with such a letter.[105]

At the meeting held in Geneva on September 12, it became a matter of harsh controversy whether the steering committee should refrain from any political action or whether it had a moral obligation to take into consideration the changed political conditions since the meeting in Prague 4 months earlier. At stake was, in fact, what should actually be considered as "political" in this sort of international scientific organization. Some forcefully argued that even doing nothing and maintaining previous plans would become a political action with strong moral and political implications. That was Peyrou's position, who argued that there was a strong contradiction in the attempt to avoid any political action: "a European Physical Society is among the many, many tools to avoid the bloc politics, it is political in the essence of being political."[106]

The postponement of the society's foundation to a later date, after the "normalization" of the situation in Czechoslovakia, was soon discarded. There was no guarantee that the situation would improve in the future, and, even more importantly, the physicists recognized that there was no standard definition of "normality" in politics within Europe, as shown by the status of Germany. The subtler argument was that, in order to found the society, they would have to accept the situation as normal sooner or later, even in cases where normality was imposed by political forces external to the people in those countries. The committee could not consider itself capable of defining what acceptable, normal conditions would have been in a world strongly conditioned by the rivalry of the Cold War superpowers. This assessment of the situation led to Bernardini's proposal to define normality uniquely with respect to EPS activities: "we should consider the situation as normal as long as all national societies and all individual physicists

[104]Letters to East Germans (n.d. [plausibly written 1968, Sept. 5]), unsent, Nr. 105/1–1, NWG. Similar messages were planned to be sent to the physical societies and academies of Bulgaria, Hungary, Poland, and the USSR. "Tape 1" (1968, p. 2).
[105]Bernardini, G. to Gentner [Telegram] (1968, Sept. 9), Nr. 105/1–1, NWG; "Tape 1" (1968).
[106]"Tape 1" (1968, p. 13).

of Europe and neighbouring countries will be really free to join the society with the intention of participating effectively to all its activities."[107] In other words, Bernardini proposed that the society would be established as planned, with all the individual and institutional members who could freely join.

The most vocal opponent of the business-as-usual approach was Israeli physicist de-Shalit, who criticized the principle that international scientific societies should avoid overt political demonstrations. Comparing the present situation of the steering committee to the attitude of apolitical scientists during the Nazi period, he questioned the proposition that an international scientific society could really be apolitical when facing serious political situations. He then advanced as a temporary solution the foundation of a society formed only by individuals, excluding all national societies entirely. His rationale was that national scientific bodies might be more prone to exercising political pressures at their governments' behest. He made the example of a national society's veto of the entrance into the EPS of possible refugees from its own country, which would force the EPS to face political controversies and effectively negate the principle of freedom of participation in the societies' activities.[108]

In the discussion that followed, the majority of Western European physicists became more and more explicit in their views that liberal democratic values were central tenets in the future society, with liberal democratic values understood here as anti-totalitarian tenets based on the principle of individual freedom—very similar to the views promoted by de Rougemont. Liberal democratic principles were, in fact, embedded in the principle that the EPS was based on free membership and on the related decision to refuse membership to governmental institutions. After the Czechoslovak crisis, this implicit connection was reinforced by reconfiguring the society as a potential diplomatic tool to support Eastern European dissident scientists and to thereby spread values that were intrinsically anti-totalitarian and based on the principle of individual freedom. Bernardini stated this quite explicitly: doing nothing was not acceptable because the society had to stand by colleagues in socialist countries who had become political dissidents by overly opposing the invasion of Czechoslovakia, colleagues such as Andrej Sakharov.[109]

This interpretation of the purpose of the society was emphasized by Janouch, who had asked for a boycott less than 20 days earlier. He recognized that his early reaction had been dictated by emotion. A more reasoned judgment on the role of international scientific activities was now necessary in order to fashion the society into a diplomatic tool. Janouch argued that founding the society as planned in September 1968, without the exclusion of any Warsaw Pact countries, was the best way of supporting Czechoslovak physicists in this moment of crisis. The situation was such that Czechoslovak physicists would still be able to join. This might have become impossible in the future, or if other countries of the Soviet Bloc were excluded. "I think one should create the society now," he concluded. Once the society had been formed, it could then become a political actor and find diplomatic ways to act in support of Czechoslovak physicists in the international arena.[110]

The majority of attendees accepted the suggestion to avoid political demonstrations in the present situation, and to defer political actions supportive of dissidents until after the foundation of the society. In doing so, they described physics as a strategic tool to overcome East–West political divides, and to thereby "help mankind," as emphasized by Swedish physicist and permanent secretary of the Swedish Royal Academy of Sciences, Erik Rudberg.[111] The watchword became "try to unify all the countries on the basis of physics," which represented the fulfillment through diplomatic actions of the cultural unity argument, as emphasized in the public presentations of

[107]"Tape 1" (1968, p. 3).

[108]"Tape 1" (1968, pp. 8–9).

[109]See various statements in "Tape 1" (1968): for example, "[I]t should be stated clearly that it is a free Society and everyone, where the Society is going to be built, should behave like a free man," (p. 6; unknown, probably de-Shalit); Bernardini stated, "if we do nothing … this would be more or less against the people, the friends in all countries, but particularly in the Socialist countries who, after all, share our opinions [e.g.] in respect to the academician Zacharov [sic]" (pp. 11–12); Janouch stated, "we need to be supported from abroad … it is a moral obligation of all intellectuals and all scientists" (p. 14); "if we do not establish the Physical Society then there won't be the possibilities to contact those countries as it would be if the Physical society [were] formed, and through these contacts we can always manage to get our points across" (pp. 21–22; unknown). Albeit in a completely different context, the diplomatic function of the value of scientific freedom closely resembles the argument that scientific freedom and internationalism were elements of U.S. cultural propaganda in the psychological Cold War, without necessarily requiring an alignment with the U.S. conceptions of liberal values, as emphasized by Audra Wolfe (2018).

[110]"Tape 1" (1968, p 15).

[111]"Tape 1" (1968, p 17).

FIGURE 4 National membership of the EPS, as represented by the official national bodies that signed the constitution on September 26, 1968. This map has been realized using historicalmapchart.net (https://historicalmapchart.net/world-cold-war.html), retrieved June 20, 2018 (CC BY-SA 4.0). National borders in historical periods were, of course, a matter of political controversy and diplomatic negotiations. This is certainly the case for the identification of the Sinai region as part of the Israeli state after the Six-Day War. The author does not intend to make, or share, any claim concerning the geopolitical description conveyed by the tool employed. This is simply a representation of the membership of the EPS in 1968 [Color figure can be viewed at wileyonlinelibrary.com]

the EPS.[112] Whatever position they expressed during the discussion, everyone agreed that, in this more strategic sense, founding the society was itself a political act. Even though some protested, the final decision was to found the society as planned, with only a weak mention of the ongoing political situation in the letter of invitation to scientific institutions.

This decision enabled the EPS to be established on September 26, 1968, with sizeable participation from Eastern European physicists (Figure 4). Lev Artsimovich attended the meeting and signed the constitution as the representative of the department of physics and astronomy of the Academy of Sciences of the USSR. Next to him, Janouch and three other physicists from Prague signed the constitution, one of whom was Z. Plajner as the official representative of the Union of Czechoslovak mathematicians and physicists (Jednota československých matematiků a fyziků).[113]

8 | THE JANOUCH AFFAIR: EPS SUPPORT OF A DISSIDENT PHYSICIST

The idea, envisaged at the dramatic meeting that took place between the invasion of Czechoslovakia and the foundation of the EPS, that the society, once established, might become active in supporting Eastern European scientists in their struggles against domestic political discrimination was actually realized in the first years of the society. Janouch was elected as a member of the Executive Committee of the Council of the EPS and served as vice-secretary, responsible for the Eastern European branch of the secretariat in Prague. At that time, the situation in Czechoslovakia had deteriorated for those physicists who were overtly critical of the invasion of Czechoslovakia and the new

[112]"Tape 1" (1968, p. 20). Unfortunately, it is not clear who was talking here.

[113]"Foundation of the Society" (1968). The national representation of the 62 scientists attending the meeting at which the society was founded was distributed as follows: Switzerland (9), UK (9), West Germany (8), France (7), Italy (7), Czechoslovakia (4), The Netherlands (3), Austria (2) Israel (2), Hungary (2), Belgium (1), Finland (1), Ireland (1), Morocco (1), Rumania (1), Spain (1), Sweden (1), USSR (1), USA (1). The Physical Section of the Yugoslav Association for Mathematicians, Physicists, and Astronomers was included in the list of the official bodies signing the constitution, with L. Slaus as the representative. Although he was not physically present, this was agreed in a phone call. "European Physical Society, Report Plenary Session at CERN" (1968, Sept. 26), p. 7, Folder European Physical Society 1968, AGB/EPS. All the participants were male, apart from the scientific secretary Lorette Etienne-Amberg. The issue of gender representation was never a matter of discussion in the foundation of the EPS.

regime that arose. Janouch was politically persecuted after signing a resolution seeking change in the new leading organs of the Czechoslovak Academy of Sciences, which were perceived as being too close to the Soviet occupiers, and requesting the abolition of censorship in scientific publications. In October 1969, Janouch was prevented from participating in the activities of the EPS outside Czechoslovakia. One year later, he lost his position at the Institute for Nuclear Research of the Czechoslovak Academy of Sciences under a new law named the Labor Code (implemented in 1970), according to which anyone could be dismissed should they "violate the socialist social order."[114] In addition, he was no longer allowed to give lectures at Charles University in Prague and isolated from his peers.[115]

News of the discrimination faced by Janouch and other Czechoslovak physicists soon became a matter of concern for Western European physicists.[116] The EPS immediately became part of a support network tasked with pressuring Eastern European institutions to improve Janouch's situation.[117] West German physicist Hans A. Kastrup urged EPS officials to send a letter to the presidium of the Czechoslovak Academy of Sciences asking them to give Janouch another job or to allow him to accept an offer at a research institution abroad. According to Kastrup, this letter would have to be formulated fairly generally in order to emphasize the fact that it was not merely in support of a single scientist but could prevent, with an action "from the West," other dismissals due to political discrimination.[118] Part of the proposed strategy should also include an offer to Janouch for some regular work abroad. By August 1970, the presidency of the EPS had been taken over by Erik Rudberg. He undertook a series of actions to protest against the treatment of Janouch in his home country, with letters to the Czechoslovak Academy of Sciences and through diplomatic channels at the ambassadorial level. The issue was whether the EPS should be *formally* involved in any political action against Janouch's dismissal. Rudberg believed that, formally, the EPS should not follow Kastrup's proposal. The rationale was that if any actions were to be officially discussed by the EPS Executive Committee, it would have put the Eastern European members in a difficult situation, especially those who opposed their domestic regimes. They would be obliged to vote against the proposal, whatever their individual positions on the matter. Nevertheless, the EPS could serve as a support network without taking any formal action, especially by providing possibilities for meetings between Eastern and Western European physicists.[119] Urged on by Weisskopf, Rudberg began to search for a suitable position for Janouch in Sweden to propose to the Czechoslovak Academy of Sciences. This quickly led to an invitation from the Swedish Royal Academy of Sciences to spend some years in Sweden as guest professor of the academy.[120] Janouch, however, was not allowed to leave the country and accept this position.[121]

After this strategy failed, the EPS became more vocal in its attempts to improve Janouch's situation in the following years. In 1973, the Czechoslovak Academy of Sciences proposed hosting the next general congress of the EPS, to be held in 1975, in Prague. In his official reply, the new president of the EPS, industrial physicist Hendrik B. G. Casimir, stressed that Janouch had remained unemployed for almost 4 years, asking the president of the Academy for clarification.[122] In response to EPS support for Janouch, the Czechoslovak delegation at the EPS tried to organize a boycott by the Eastern European physicists.[123] They withdrew their proposal to hold the 1975 general conference in Prague and asked all Eastern European delegates to leave the EPS. This planned boycott failed because of the negative reaction from other Eastern European physicists. The Rumanian delegation made the best of the situation and

[114]Janouch (1975). See also Bolton (2014, pp. 47–50).
[115]Janouch (1993). In spring 1969, in response to the changing political climate, Tauc emigrated to the United States: Cardona et al. (2011).
[116]Kastrup, H. to Weisskopf [Letter] (1970, Sept. 20), Folder correspondence I-J, AGB/EPS.
[117]Gentner, W. to Ganzhorn [Letter] (1970, Oct. 2), Nr. 107/2, NWG; Bernardini, G. to Rudberg [Letter] (1970, Sept. 28), Folder correspondence Q-R, AGB/EPS.
[118]Kastrup, H. to Weisskopf [Letter] (1970, Sept. 20), Folder correspondence I-J, AGB/EPS.
[119]Rudberg, E. to Bernardini [Letter] (1970, Oct. 3), Folder correspondence Q-R, AGB/EPS.
[120]Rudberg, E. to A. Winther [Letter] (1974, Dec. 27), E01:20, Erik Rudberg's archives, Royal Swedish Academy of Sciences, Stockholm, Sweden.
[121]Bolton (2014, pp. 47–50)
[122]Janouch (1993).
[123]Fritz Bopp, a West German physicist and original member of the steering committee, reported that the EPS refused to go to Prague because of the treatment of its members: Bopp, F. to Adolf Butenandt [Letter] (1973, Jun. 17), Nr. 663, Rep. 84–2: Nachlass Adolf Butenandt, III Abt., Archiv der MPG, Berlin, Germany.

successfully launched an alternative proposal to hold the EPS general conference in Bucharest rather than Prague. Janouch was eventually allowed to leave Czechoslovakia at the end of 1973. According to him, the political pressure exerted by the EPS played a major role in this turn of events. The EPS network's intervention proved fundamental for the continuation of Janouch's career, because he was able to accept the position secured in Sweden by the early involvement of Rudberg.[124] As soon as he had settled in Sweden, Janouch founded the Foundation Charter 77 to provide the principal opposition group Charter 77 and other dissidents in his native Czechoslovakia with financial support and technical equipment in the later years of communist rule.[125]

9 | CONCLUSION

Janouch's trajectory powerfully shows that the diplomatic objectives put forward by the EPS during the dramatic discussions following the invasion of Czechoslovakia were not just empty talk. The EPS actually became a tool for overcoming political divides, specifically by spreading liberal-democratic values to Eastern European countries through physics and under the label of cultural unity, especially in support of physicists facing political discrimination.

As mentioned earlier in this paper, the society was certainly not born this way. Rather, the specific needs of a community of CERN-related Western European physicists connected with utopian and elitist views about the cultural and political unity of Europe. This process started around the mid-1960s, and my account of it takes up the story where John Krige's *American Hegemony and the Postwar Reconstruction of Science in Europe* left off.[126] The construction of the EPS was a strategy envisaged by CERN-based physicists precisely as a response to U.S. hegemony in physics. According to them, the EPS could become *the* organizing structure for the emergence of a comparable world power based on an independent and united European physics community.

This project became feasible due to the changing political and economic circumstances in 1960s Europe. In the mid-1960s, Bernardini and others believed that European physics could become strong enough to challenge U.S. dominance. This is particularly striking because Bernardini was one of the actors in Krige's narrative who lobbied most for U.S. support for Italian physics in the immediate aftermath of World War II. Like Bernardini, the elites of Western European physics had been involved in what Krige calls the co-production of the U.S. hegemonic role in European science because the conditions were such that U.S. aid was indeed considered essential during the reconstruction phase. Between the end of World War II and the mid-1960s, an Americanization of Western European physics had taken place; for Americanization, I use Krige's definition of it as a process by which U.S. "scientific accomplishments remained an omnipresent point of reference and a constant source of pressure for change in Europe, while U.S. recognition of European achievements was an essential source of scientific credibility and scientific capital."[127] However, the U.S. model was never fully accepted by the European elites involved, as Krige points out. Instead, different worldviews and values remained in the background, and these, in part, took the form of anti-U.S. sentiments and the desire to build an alternative European model.

These complex relations between Western European and U.S. physics constituted, along with the European political landscape of the Cold War, an important part of the foundation on which the EPS was built. The American Physical Society and its journals were both the model used to build the society and the elements against which the new society was designed to compete at the scientific level. In the process, the social impact of this scientific competition was publicly emphasized by arguing that, in terms of civilization, Europeans were morally superior to Americans. This view was expressed very openly by Bernardini himself at the society's inauguration:

[124]Janouch (1993).
[125]Bolton (2014).
[126]Krige (2006).
[127]Krige (2006, p. 269).

> [Europe] is the cradle of the world's greatest civilization, which has been a powerful reality in human progress for centuries …. Our century is seeing new radical changes in the economical, political and spiritual structures of human society. New countries are being born which develop technically up to high standards, but without the roots of a broad culture, which can be the source of great strength for the country and for the individual. It is Europe that has most to offer in the formation of the structure of human society in the future where [s]cience could take the role of a new humanism. The European Physical Society is founded in these hopes."[128]

Bernardini was clearly referring to the US, and possibly also the USSR, as the competing countries in what he called "the race for primacy in the civilized world," whereas a united Europe, in view of its historical roots in the Renaissance, might offer a much more valuable perspective for peaceful human progress than the two rival Cold War superpowers.

Since one of Bernardini's strongest motivations was to improve editorial practices in Italy through a process of internationalization, one might conclude that Bernardini and others came to see Europe as an independent international framework that could replace the US as the hegemonic scientific powerhouse for directing national programs. Initially, this view was strongly connected to visions of European cultural unity, along the lines of de Rougemont's efforts for a federalist Europe. Whether the physicists involved recognized it or not, this vision, as promoted by de Rougemont, was actually related to strongly anti-totalitarian and anti-communist perspectives. This ideological linkage between liberal democratic values and European cultural unity remained, albeit in a non-explicit way, a constitutive element of the EPS's future structure. Along the way, the theme of cultural unification was emphasized at the level of public discourse, but disappeared from the physicists' actual intellectual exchange. The negotiations were, in fact, conditioned by the political situation in Europe, the interests of national physical societies, and the desire to secure independence from national governments. The outcome of these negotiations gave the society a structure and function that differed significantly from the one initially envisaged by Bernardini, Gentner, and others. This is particularly true of its scope, which was explicitly limited from taking any role in the supra-national organization of research, evidently one of the major initial goals of CERN-related physicists.

While absent in the actual negotiations, the idea of a culturally unified Europe was influential in fortifying the will for a geographically inclusive physical society as a response to the divisive Cold War political context. The decision to involve national institutions and, at the same time, to build a truly pan-European society led to the reformulation of this initiative as a diplomatic one, with all the political maneuvering and negotiations that implied. However, the major transformation in Western European physicists' perception of the society occurred only after the invasion of Czechoslovakia in August 1968. This dramatic event forced the actors to rephrase in more specific ways the principles, values, and moral identity of the future endeavor, which, in the words of the protagonists, became a society that could help to spread the value of individual freedom as well as support dissident scientists in Eastern European countries. And this is exactly what happened in the case of the Janouch affair.

ACKNOWLEDGEMENTS

I am very grateful to the Research Program on the History of the Max Planck Society and its members for the institutional support and comments on an early version of the manuscript. I am very indebted to the directors, archivists, and librarians of various institutions that made this research possible, especially the Department I and Library of the Max Planck Institute for the History of Science, the Archives of the Max Planck Society, the Centro Archivistico della Scuola Normale Superiore in Pisa, the Niels Bohr Archive, the Royal Swedish Academy of Sciences Archives, and the Library of the Physics Department at the University of Milan, for their support in acquiring the archival materials and permission to use them in this paper. Earlier versions of this paper have been presented at the Third International

[128]"Official inauguration" (1968, p. 7). See also Bernardini, G. (1968, Sept. 26), "Speech Delivered at the Foundation Ceremony of the European Physical Society" [Speech], Folder European Physical Society 1968, AGB/EPS. This explains why U.S. scientists and institutions were absent from the project. Weisskopf and Cécile DeWitt-Morette were the only two US-based, but European-born, physicists to become members of the EPS steering committee.

Congress for the History of Physics in San Sebastián, at the 2018 HSS Congress in Seattle, at the First Conference of the International Academy of the History of Science in Athens, and at the first workshop of the Commission on Science, Technology and Diplomacy of the DHST/IUHPS in Copenhagen. I am very grateful to the attendees of all these meetings for their insightful remarks. I am especially indebted to the members of the Commission on Science, Technology, and Diplomacy for their intellectual engagement with the subject, institutional support, and a number of discussions. My heartfelt thanks to Matthew Anderson, Dieter Hoffman, Riaz Howey, Doubravka Olšáková, and Simone Turchetti for their comments on early versions of the paper. My deepest gratitude goes to the two referees and the associate editor, Daniela Helbig, who made a number of important comments and suggestions that substantially shaped the final version of this article. Finally, I am extremely indebted to Lindy Divarci for her editorial work on the language. The research has been partially funded by the Spanish Ministry of Science and Innovation (Research Grant PID2019-107234GB-I00).

ORCID

Roberto Lalli https://orcid.org/0000-0002-5854-3484

BIBLIOGRAPHY

1968 The Foundation of EPS. (2018). *Europhysics News*, 49(2), 20.

Anceau, E. (2016). De Gaulle and Europe. *Encyclopédie pour une histoire nouvelle de l'Europe* [online]. Retrieved from https://ehne.fr/en/article/political-epistemology/arbiters-and-arbitration-europe-beginning-modern-times/de-gaulle-and-europe

Andrén, M. (2020). Europe of nations, Europe without nationalism. *History of European Ideas*, *46*(1), 13–24.

Béné, G. J. (1965). Développments et perspectives du groupement et des colloques Ampêre. In L. Van Gerven (Ed.), *Nuclear magnetic rosonance and relazation in solids* (pp. XII–XVIII). Amsterdam, The Netherlands: North Holland Publishing.

Béné, G. J. (2005). *Les premières décennies du Groupement AMPERE—Souvenirs*. Retrieved from https://www.ampere-society.org/pdf/souvenirs.pdf

Bernardini, G. (1963). Editoriale. *Il Nuovo Cimento*, *29*, v–xvi.

Bernardini, G. (1965). Editoriale. *Il Nuovo Cimento*, *39*(4), I–III.

Bernardini, G. (1966). Purpose of the meeting. In L. Radicati & A. Zichichi (Eds.), *Meeting on European collaboration in physics* (pp. 11–13). Bologna, Italy: Compositori.

Bernardini, G. (1972). The origin of the European Physical Society. *Physics Today*, *25*(9), 34–38.

Bevilacqua, F., Giannetto, E., & Tagliaferri, G. (1993). Europe in 1965–1968. *Europhysics News*, *24*(6), 115–117.

Bolton, J. (2014). *Worlds of dissent: Charter 77, the plastic people of the universe, and Czech culture under communism*. Cambridge, MA: Harvard University Press.

Buchanan, T. (2010). Human rights, the memory of war and the making of a "European" identity, 1945–1957. In M. Conwey & K. K. Patel (Eds.), *Europeanization in the twentieth century: Historical approaches* (pp. 157–171). New York, NY: Palgrave Macmillan.

Cardona, M., Nagel, S., Zallen, R., & Zaveta, K. (2011). *Jan Tauc, 1922–2010. A Biographical Memoir*. Washington, DC: National Academy of Sciences. Retrieved from http://nas.nasonline.org/site/DocServer/Tauc_Jan.pdf

Carson, C. (2010). Beyond reconstruction. CERN's second-generation accelerator program as an indicator of shifts in West-German science. In H. Trischler (Ed.), *Physics and politics. Research and research support in twentieth century Germany in international perspective* (pp. 107–130). Stuttgart, Germany: Steiner.

CERN Biographies—Marian Danysz. (1983, May). *CERN Courier*. Retrieved from http://lib-docs.web.cern.ch/lib-docs/Archives/biographies/Danysz_M-198305.pdf

Crawford, E., Shinn, T., & Sörlin, S. (1993). The nationalization and denationalization of the sciences: An introductory essay. In E. Crawford, T. Shinn, & S. Sörlin (Eds.), *Denationalizing science: The contexts of international scientific practice* (pp. 1–42). Dordrecht, The Netherlands: Kluwer Academic Publishers.

Daston, L. (2019, December). Precision and prestige in nineteenth-century Paris. Paper presented at the Max Planck Institute for the History of Science, Berlin, Germany.

Davis Cross, M. K. (2012). Identity politics and European integration. *Comparative Politics*, *44*(2), 229–246.

De Groot, S. (1966). Should we have a European Physical Society? In L. Radicati & A. Zichichi (Eds.), *Meeting on European collaboration in physics* (pp. 23–25). Bologna, Italy: Compositori.

De Ménil, L. P. (1977). *Who speaks for Europe?: The vision of Charles de Gaulle*. London, England: Weidenfeld and Nicolson.

De Rougemont, D. (1948). Lecture given by Denis de Rougemont on the cultural implications of European unity (Paris, 22 April 1948). *CVCE.eu*. Retrieved from https://www.cvce.eu/en/obj/lecture_given_by_denis_de_rougemont_on_the_cultural_implications_of_european_unity_paris_22_april_1948-en-ff3d3e3a-0f5b-41bf-961a-067822bb65ee.html

Estratto del Verbale della 106a Riunione del Consiglio di Presidenza della SIF. (1965). *Bollettino della Società italiana di Fisica*, *43*, 4–5.

Estratto del verbale della 107a riunione del Consiglio di Presidenza della S.I.F. (1965). *Bollettino della Società italiana di Fisica*, *45*, 1–3.

European Physical Society. (1968). *CERN Courier*, pp. 35–37.

Evangelista, M. (1999). *Unarmed forces: The transnational movement to end the Cold War*. Ithaca, NY: Cornell University Press.

Forman, P. (1973). Scientific internationalism and the Weimar physicists: The ideology and its manipulation in Germany after World War I. *Isis*, *64*, 151–180.

Foundation of the Society. (1968). *Europhysics News*, *1*(1), 3–4.

Frank, F. C. (1966). A European Physical Society? *Physics Bulletin*, *17*(7), 244–247.

From Bologna to Geneva. (1968). *Europhysics News*, *1*(1), 1–2.

Gentner, W. (1971). GroBforschung als Problem moderner europaischer Zusammenarbeit. In O. W. Haseloff (Ed.), *Physik und Kosmologie; Stand and Zukunfsaspekte Naturwissenschaftlicher Forschung in Deutschland* (pp. 137–148). Berlin, Germany: Colloquium Verlag Berlin.

Greenaway, F. (1996). *Science international: A history of the International Council of Scientific Unions*. Cambridge, MA: Cambridge University Press.

Gschwend, P. (2008, August 22). NVA-Truppen machen Halt an der tschechoslowakischen Grenze. *Radio Prague International*. Retrieved from https://www.radio.cz/de/rubrik/sonderserie68/nva-truppen-machen-halt-an-der-tschechoslowakischen-grenze

Haas, E. B. (1958). *The uniting of Europe: Political, social, and economic forces, 1950–1957*. Stanford, CA: Stanford University Press.

Hanhmäki, J. M. (2010). Détente in Europe, 1962–1975. In M. P. Leffler & O. A. Westad (Eds.), *The Cambridge history of the Cold War Volume II: Crises and détente* (pp. 198–218). Cambridge, MA: Cambridge University Press.

Hermann, A., Krige, J., Mersits, U., & Pestre, D. (1990). *History of CERN, II: Building and running the laboratory, 1954–1965*. Amsterdam, The Netherlands: Elsevier.

Hoffmann, D., & Schmidt-Rohr, U. (Eds.). (2006). *Wolfgang Gentner: Festschrift zum 100. Geburtstag*. Berlin, Germany: Springer-Verlag.

Holloway, D. (1994). *Stalin and the bomb: The Soviet Union and atomic energy, 1939–1956*. New Haven, CT: Yale University Press.

Iriye, A. (2002). *Global community: The role of international organizations in the making of the contemporary world*. Berkeley, CA: University of California Press.

Janouch, F. (1975). Czech persecution. *Nature*, *253*(5488), 155–155.

Janouch, F. (1993). Ensuring East European participation. *Europhysics News*, *24*(6), 120–122.

Josephson, P. R. (1996). Atomic-powered communism: Nuclear culture in the postwar USSR. *Slavic Review*, *55*(2), 297–324.

Kaiser, D. (2012). Booms, busts, and the world of ideas: Enrollment pressures and the challenge of specialization. *Osiris*, *27*(1), 276–302.

Khelfaoui, M., & Gingras, Y. (2019). Physical review: From the periphery to the Center of Physics. *Physics in Perspective*, *21*(1), 23–42.

Kohlrausch, M., & Trischler, H. (2014). *Building Europe on expertise: Innovators, organizers, networkers*. London, England: Palgrave Macmillan UK.

Krige, J. (2006). *American hegemony and the postwar reconstruction of science in Europe*. Cambridge, MA: MIT Press.

Kubbinga, H. (2008). European Physical Society (1968–2008): The early years. *Europhysics News*, *39*(1), 16–18.

Lalli, R. (2014). A new scientific journal takes the scene: The birth of reviews of modern physics. *Annalen der Physik*, *526*, A83–A87.

Lalli, R. (2017). *Building the general relativity and gravitation community during the Cold War*. Cham, Switzerland: Springer International Publishing.

Lettera al Direttore del prof. R. Gatto e di un gruppo di professori di fisica. (1965). *Bollettino della Società italiana di Fisica*, *43*, 8–9.

Lerner, D. (1962). Security, nationalism, and the crisis of European identity. *Public Opinion Quaterly*, *26*, 463–464.

Lock, W. O. (1975a). A history of the collaboration between the European Organization for Nuclear Research (CERN) and the Joint Institute for Nuclear Research (JINR) and with Soviet Research Institute in the USSR, 1955–1970. Geneva, Switzerland: CERN. Retrieved from https://inis.iaea.org/collection/NCLCollectionStore/_Public/06/215/6215888.pdf?r=1&r=1

Lock, W. O. (1975b). Collaboration CERN-JINR (Dubna) and CERN-USSR 1955–1975. *Europhysics News*, *6*(7), 1–4.
Loth, W. (2015). *Building Europe: A history of European unification*. Berlin, Germany: De Gruyter Oldenbourg.
Ludlow, N. P. (Ed.). (2007). *European integration and the Cold War: Ostpolitik-Westpolitik, 1965–1973*. London, England: Routledge.
Maraventano, V. (1966, April 16–17). Cento Fisici Europei Riuniti a Pisa. *La Nazione*.
Maria Skłodowska-Curie Centenary Committee & IAEA. (1968). *Maria Skłodowska-Curie centenary lectures: Proceedings of a symposium held in Warsaw, 17–20 October 1967*. Vienna, Austria: International Atomic Energy Agency.
Martinez, J.-P. (2019). Soviet science as cultural diplomacy during the Tbilisi conference on general relativity. *Vestnik of Saint Petersburg University. History*, *64*, 120–135.
Moedas, C. (2016). Science diplomacy in the European Union. *Science & Diplomacy*, *5*. Retrieved from http://www.sciencediplomacy.org/perspective/2016/science-diplomacy-in-european-union
Müller, J. M., & Bona, M. (2018). Past, present, and future of science diplomacy in Europe. *Science & Diplomacy*, *7*. Retrieved from http://www.sciencediplomacy.org/editorial/2018/past-present-and-future-science-diplomacy-in-europe
Niederhut, J. (2007). *Wissenschaftsaustausch im Kalten Krieg: die ostdeutschen Naturwissenschaftler und der Westen*. Wien, Austria: Böhlau.
Official inauguration. (1968). *Europhysics News*, *1*(1), 7–8.
Olšáková, D. (2017). Between Stalinism and infrastructural globalism: The International Geophysical Year (1957–8) in Czechoslovakia, Poland and German Democratic Republic. *Acta Poloniae Historica*, *115*, 97–122.
Olšáková, D. (2018). Pugwash in Eastern Europe: The limits of international cooperation under Soviet control in the 1950s and 1960s. *Journal of Cold War Studies*, *20*(1), 210–240.
Olšáková, D. (2019). Czechoslovak ambitions and Soviet politics in Eastern Europe: Pugwash and the Soviet peace agenda in the 1950s and 1960s. In A. Kraft & C. Sachse (Eds.), *Science, (anti-)communism and diplomacy: The Pugwash conferences on science and world affairs in the early Cold War* (pp. 259–285). Boston, MA: Brill.
Ousselin, E. (2006). Denis de Rougemont and the literary construction of Europe. *Dalhousie French Studies*, *76*, 73–84.
Pais, A. (1986). *Inward bound: Of matter and forces in the physical world*. Oxford, England: Clarendon Press.
Pestre, D., & Krige, J. (1992). Some thoughts on the early history of CERN. In P. Galison & B. W. Hevly (Eds.), *Big science: The growth of large-scale research* (pp. 78–99). Stanford, CA: Stanford University Press.
Powell, C. F. (1964). *The role of pure science in European civilization. Speech delivered by C. Powell 10th anniversary of CERN*. Retrieved from http://cds.cern.ch/record/1562854/files/9735%20e.pdf
Press, R. (1968). The European Physical Society. *Physics Bulletin*, *19*(11), 390.
Proceedings of the Fourteenth Pugwash Conference on Science and World Affairs on international co-operation for science and disarmament, 11–16 April 1965. (1965). Venice, Italy: Pugwash Continuing Committee.
Radicati, L., & Zichichi, A. (Eds.). (1966). *Meeting on European collaboration in physics*. Bologna, Italy: Compositori.
Riffault, H. (1962). French public opinion and the unification of Europe. *Public Opinion Quaterly*, *26*, 464–665.
Saunders, F. S. (2013). *The cultural Cold War: The CIA and the world of arts and letters*. New York, NY: New Press.
Schopper, H. F. (2009). *LEP: The lord of the collider rings at CERN 1980–2000: The making, operation and legacy of the world's largest scientific instrument*. Berlin, Germany: Springer.
Scott-Smith, G. (2001). *The politics of apolitical culture: The Congress for Cultural Freedom and the political economy of American hegemony 1945–1955*. London, England: Routledge.
Somsen, G. J. (2008). A history of universalism: Conceptions of the internationality of science from the Enlightenment to the Cold War. *Minerva*, *46*, 361–379.
Soutou, G.-H. (2007). The linkage between European integration and detente: The contrasting approaches of de Gaulle and Pompidou, 1965–1974. In N. P. Ludlow (Ed.), *European integration and the Cold War: Ostpolitik-Westpolitik, 1965–1973* (pp. 12–35). London, England: Routledge.
von Stackelberg, K. G. (1962). European unity and the German public. *Public Opinion Quaterly*, *26*, 465–466.
Stein, J. A. (2002). Science, technology and European foreign policy: European integration, global interaction. *Science and Public Policy*, *29*(6), 463–477.
Stolarik, M. M. (2010). *The Prague Spring and the Warsaw Pact invasion of Czechoslovakia, 1968: Forty years later*. Mundelein, IL: Bolchazy-Carducci Publishers.
Štrbáňová, S., & Kostlán, A. (Eds.). (2011). *Sto českých vědců v exilu. Encyklopedie významných vědců z řad pracovníků Československé akademie věd v emigraci*. Prague, Czech Republic: Academia.
The European Centre for Culture. (2016). *CVCE.eu*. Retrieved from https://www.cvce.eu/en/recherche/unit-content/-/unit/04bfa990-86bc-402f-a633-11f39c9247c4/46688a91-795c-463e-8428-8160936e3752
Trischler, H. (2006). Wolfgang Gentner und die Großforschung im bundesdeutschen und europäischen Raum. In D. Hoffmann & U. Schmidt-Rohr (Eds.), *Wolfgang Gentner: Festschrift zum 100. Geburtstag* (pp. 95–120). Berlin, Germany: Springer.

Turchetti, S., Herran, N., & Boudia, S. (2012). Introduction: Have we ever been "transnational"? Towards a history of science across and beyond borders. *The British Journal for the History of Science*, *45*, 319–336.
Vlachý, J. (1968). European Physical Society. *Czechoslovak Journal of Physics B*, *18*, 815–819.
Voss, R. (2018). Happy birthday, EPS! *Europhysics News*, *49*(2), 3.
Wolfe, A. J. (2018). *Freedom's laboratory: The Cold War struggle for the soul of science*. Baltimore, MD: Johns Hopkins University Press.

How to cite this article: Lalli R. Crafting Europe from CERN to Dubna: Physics as diplomacy in the foundation of the European Physical Society. *Centaurus*. 2021;63:103–131. https://doi.org/10.1111/1600-0498.12304