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FRUITFUL FAILURE: INTELLECTUAL COOPERATION AND THE INSTITUTIONALIZATION OF SCIENTIFIC RESEARCH

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The creation of the International Commission on Intellectual Cooperation (ICIC), followed by that of the International Institute (IIIC), came at a very special time in the evolution of the organization of scientific research worldwide. Since the late 19th century, as a result of the so-called "second industrial revolution", the number of young adults trained in higher education was on the rise. As a key players in this industrialization process, large companies relied more and more on advances in knowledge, for instance by setting up central laboratories . Scientific research took on new institutional forms. On the eve of the First World War, political power became increasingly involved in the governance of science. Examples include the creation of the Caisse des recherches scientifiques [Fund for scientific research] in France (1901) and the Kaiser Wilhelm Gesellschaft in Germany (1911). During the Great War, various scientific mobilizations crystallized this movement, giving scientists a new place and responsibility, and incorporating them into the new machinery of war. These mobilizations also shattered the transnational logic that had prevailed in the academic world since the end of the 19th century.

The end of the conflict thus imposed a reconfiguration of the scientific world and posed series of challenges for the scientific communities: a demographic problem – many young scientists died at the front –, an economic issue – production imperatives could turn young people away from scientific careers –, and finally, a moral challenge – the conflict questioned the universal nature of science. The scientific actors who contributed to the mobilization were face with a paradoxical situation: while they had demonstrated their usefulness and sometimes exerted unprecedented influence in political spheres, they were in a difficult situation once the war was over. Anchoring the gains of wartime institutional innovations was as imperative as rebuilding the frameworks of intellectual cooperation.

The institutions at the heart of this conference were a powerful lever for this project, but we know that they quickly prove limited by the relative weakness of their economic resources and political means. However, they were not ineffective. The aim of this paper is precisely to show how the ICIC and the IIIC were able to contribute to the emergence of a new status for scientific research thanks to projects that turned out to be fruitful failures. Our analysis focuses on the economic status of scientific research. We aim to understand how institutions sought to analyze the role of science in the economic order of the interwar period,

and how they sought to change it. To this end, we will focus on three moments in particular. First, we try to understand how the ICIC and the IIIC came to address the crisis of intellectual work. The second part raises the question of the resources of scientific activity, which leads to a specific survey managed in the early 1930s. Finally, we look at the debate on scientific property before discussing the results of these various initiatives.

1. THE CRISIS OF INTELLECTUAL WORK

The various initiatives in favor of scientific research were linked to the League of Nations's projects about intellectual labor and its material resources. Already mentioned by Jean-Jacques Renoliet, this positioning was analyzed in greater detail by Christophe Verbruggen, who highlighted the role played by intellectual workers' trade unions in the International Labour Office and the rest of the League of Nations¹. His study clearly shows that the representation of this new category of workers came up against a diversity of expectations and competing projects. This raises the question of how the latter relate to intellectual cooperation projects.

1.1. The invention of intellectual work

The “intellectual trade unionism” that has been developing since the late 19th century is not confined to the artistic and cultural spheres. In the technical and scientific fields, the defense of engineers' rights, for example, was particularly sensitive at a time when large corporations were increasing their control over employees' invention². Organizations dedicated to the defense of authors' rights were also arenas in which such engineers' demands were heard, as demonstrated by the discussions at the Turin congress of the International Literary and Artistic Association in 1898.

This rise in demands from the intellectual professions inspired economic and political reflection on the respective roles of intellectual and manual labor. This question was prevalent among certain revolutionary thinkers. For the German socialist theorist Karl Kautsky, the growing numbers of “intellectual workers” were likely to become part of the proletariat's class struggle³. On the other hand, for Polish anarchist Jan Makhajski, socialism was under threat to have the exploitation by capitalists replaced with that by “intellectual workers”⁴. This thinking went beyond the socialist or revolutionary sphere. In France, former Fourierist engineer Louis-Léger Vauthier analyzed the similarities between manual and intellectual labor and justified the superiority of the former over the latter⁵. For the economist Charles Gide, on the other hand, this hierarchy tended to diminish: manual and intellectual labor occupied the same economic status vis-à-

1. Jean-Jacques Renoliet, *L'UNESCO oubliée : la Société des Nations et la coopération intellectuelle (1919-1946)*, (Paris: Publications de la Sorbonne, 1999), 14; Christophe Verbruggen, “‘Intellectual Workers’ and Their Search for a Place Within the ILO During the Interwar Period”, in *ILO Histories: Essays on the International Labour Organization and its Impact on the World during the Twentieth Century*, ed. Jasmien Van Daele and Magaly Rodriguez Garcia (Berne: Peter Lang, 2010), 271–92.

2. Gabriel Galvez-Behar, *Posséder la Science : La Propriété Scientifique au Temps du Capitalisme industriel* (Éditions de l'École des Hautes Etudes en Sciences Sociales, 2020).

3. Karl Kautsky, ‘Die Intelligenz und die Sozialdemokratie’, *Die Neue Zeit*, 13, no. 27, (1894-1895), 10–16; no. 28, 43–48; no. 29, 74–80.

4. Jan Wacław Machajski, *Le Socialisme des Intellectuels*, trans. Alexandre Skirda, (Paris: Les Éditions de Paris, 2001).

5. Louis-Léger Vauthier, ‘Travail intellectuel et travail manuel’, *Revue économique*, 14, no. 1, (1900): 59-81.

vis the entrepreneur⁶. Even before the First World War, the social and economic role of intellectual workers was at the heart of important debates.

1.2. From intellectual trade unionism to intellectual cooperation

The end of the war intensified these questions. In France, the creation of the Union de syndicats d'ingénieurs français [Union of French engineering unions] in 1919 led to that of the Confédération des travailleurs intellectuels [Confederation of Intellectual Workers] (CTI) a year later. This unionization movement also occurred in countries such as Germany, Austria, Belgium, and the Netherlands. The emergence of new international organizations offered new opportunities and recognition, both for often young intellectual unions and for various reform entrepreneurs. In January 1920, French literary scholar and senior civil servant Julien Luchaire proposed a “Draft Convention creating a permanent organization for international understanding and collaboration in matters of Education and in the Sciences, Letters and Arts”. Having the International Labor Office in mind, Luchaire advocated “the centralization and distribution of all information concerning the intellectual work of the Nations”⁷.

According to Jean-Jacques Renoliet, this project inspired the initiative taken by the Association française pour la SDN [French Society for the League of Nations] (AFSDN) in July 1920. Indeed, the AFSDN hoped “that the LoN would soon include an organization for intellectual labor analogous to that which already exists for manual labor”⁸. Yet, despite the parallel drawn with the International Labor Office, Luchaire's project attached little importance to the material interests of intellectual workers: the new body was supposed to contribute to the organization of “intellectual production” by avoiding the dispersal of forces. The project thus feeds on ambiguity about the meaning of the term “organization”, and on the asymmetry between institutional recognition of manual work and neglect of intellectual work⁹.

This ambiguity was reinforced by the various points of view that characterize the constitution of the ICCI, which Martin Grandjean has analyzed in depth¹⁰: from the Union of International Associations (UIA) and the AFSDN, whose projects differed and even clashed, from the General Secretariat of the League of Nations, itself under pressure from those who wanted to contain the expansion of technical bodies, and from the ILO. In addition, other individuals and institutions worked at national level to defend the organization of intellectual cooperation. In the two years preceding the effective entry into force of the ICCI, the alliances or divergences between these actors were far from monolithic. The place of intellectual work and the question of its material resources were issues at stake in this complex dynamic.

One of the key questions was who should take charge of problems relating to the material interests of intellectual workers. Initial discussions of the UIA's proposals

6. Charles Gide, ‘Travail intellectuel et travail manuel’, *Foi et vie : revue de quinzaine, religieuse, morale, littéraire, sociale*, 16 August 1901, 307-312.

7. Julien Luchaire, ‘La Société des nations et la vie intellectuelle internationale’, *L'Europe nouvelle*, 17 January 1920, 64. Our translation.

8. Lettre de Paul Appell, président de l'Association française pour la SDN à E. Drummond, 8 juillet 1920 cité par Renoliet p. 13.

9. Patrick Fridenson, ‘Un tournant taylorien de la société française (1904-1918)’, *Annales. Économies, Sociétés, Civilisations* 42, no. 5 (1987): 1031-60.

10. Martin Grandjean, ‘Les réseaux de la coopération intellectuelle. La Société des Nations comme actrice des échanges scientifiques et culturels dans l'entre-deux-guerres’ (phdthesis, Université de Lausanne, 2018).

by the LoN Assembly in November 1920 confined themselves to soliciting support for initiatives whose “object [was] the development of international cooperation in the intellectual field”¹¹. Yet a month later, in December 1920, in a report to the LoN Assembly, Belgian delegate Henri Lafontaine suggested that “intellectual labor must be able to equip itself on an equal footing with manual labor”.¹² As Martin Grandjean noted, this report provoked a reaction from British delegate Barnes. For him, “if help is to be given to intellectual labor [...] the body best suited for the purpose is the International Labor Office”¹³. Lafontaine's response to this objection was not to consider the social conditions of intellectual workers as a prerogative of the new organization under discussion¹⁴. Who, then, should take responsibility for the material interests of intellectual workers?

However, the prerogatives of the ILO in the field of intellectual work were far from obvious. It is hard to imagine that the ILO would have reserved socio-economic issues relating to intellectual work for itself, while the new commission would have only focused on intellectual cooperation¹⁵. In fact, a much vaguer compromise was forged in the second half of 1921 within both the League of Nations and the ILO. In France, in August 1921, the President of the Council, Aristide Briand, ended up supporting the convening of an international conference to create a “permanent body concerned with intellectual work”. When asked about the project, Minister of Public Instruction Bérard explicitly mentioned the need to address the material working conditions of intellectuals¹⁶. At the same time, the UIA organized a first international congress of intellectual workers, and obtained a mandate to represent it at the ILO and the organs of the League of Nations¹⁷. A new context was thus in place to raise the issue of intellectual workers and their material conditions within the emerging international institutions.

A study of the LoN Assembly draft resolution on intellectual cooperation confirms how ambivalent was the place given to this question. In his report presented on September 2, 1921, Léon Bourgeois acknowledged that :

The League of Nations, however, “left aside a whole facet of the problem it had to deal with: that of defending the interests and improving the condition of intellectual workers.”¹⁸

For Bourgeois, this was a matter for the ILO and not for the new intellectual cooperation commission. Therefore, his draft resolution placed no emphasis on the material conditions of intellectual workers¹⁹. A few days later, when the Assembly's Fifth Committee examined the Bourgeois report, Henri Lafontaine once again “set aside the problem of material improvement in intellectual circles,

11. *Actes de la première Assemblée de la Société des Nations. Séances plénières* (Genève: Société des Nations, 1920), 501 quoted in Grandjean, *Les réseaux de la coopération intellectuelle*, 147.

12. *Actes de la première Assemblée de la Société des Nations. Séances plénières*, 755.

13. Grandjean, ‘Les réseaux de la coopération intellectuelle. La Société des Nations comme actrice des échanges scientifiques et culturels dans l’entre-deux-guerres’, 149. ; Société des nations, *Actes de la première Assemblée de la Société des Nations. Séances plénières*, 756, session 18 Décembre 1920.

14. *Actes de la première Assemblée de la Société des Nations. Séances plénières*, 757, session on 18 December 1920.

15. Verbruggen, “‘Intellectual Workers’ and Their Search for a Place Within the ILO During the Interwar Period”, 286.

16. Renoliet, *L’UNESCO oubliée*, 17.

17. ‘La protection internationale des travailleurs intellectuels’, *Revue internationale du travail* 4, no. 1 (1921): 16.

18. *Journal officiel de la Société des nations* 2, no. 10-12, (1921): 1104.

19. *Journal officiel de la Société des nations* 2, no. 10-12, (1921): 1105-1106.

where much remains to be done”²⁰. Discussions on the draft resolution introduced only a few amendments. Apart from the title of the resolution, which includes the expression “intellectual work”, nothing explicitly referred to the issue of the material conditions of intellectual workers. Rather, the very expression “intellectual exchange” suggested that the ICIC would confine itself to questions of cooperation.

The Director of the ILO, however, offered a different interpretation. In a letter addressed to the Secretary General of the League of Nations, Albert Thomas noted that :

“The 5th Committee of the Assembly, in giving this report its unanimous approval, decided at the same time not to limit in any way the program of the twelve-member Commission to be appointed by the Council. - It is in this sense that it will report to the Assembly, and I do not believe I am anticipating events by assuming that its opinion will be adopted.

The Consultative Commission on Intellectual Labor will therefore have to consider the assistance that the League of Nations could provide to intellectual workers, *in all its forms*. I have noted that, in the minds of the initiators of this work, it was primarily a question of coordinating the work of intellectuals, and facilitating their research with a view to promoting, through international cooperation, the progress of the human spirit.

But it is clear that the Commission will also have to deal with the *economic situation of intellectual workers*, which rightly concerns them and which they themselves intend to submit to the League of Nations, as shown by the resolutions recently passed by the Brussels International Congress.”²¹

Contrary to the literal reading of the draft resolution, Albert Thomas's interpretation gave the proposed Commission a freedom of vision and of action. In fact, by using a sort of apophasis, Thomas himself suggested to the General Secretariat of the LoN that the Commission take on the problem of the “economic situation of intellectual workers”. He went on to point out that the ILO Governing Body had not taken any decision on the advisability of dealing with intellectual workers. While reserving the question, he went on to propose ways in which the ILO and the future commission could work together. By proceeding in this way, Albert Thomas intended to anchor the issue of the economic conditions of intellectual labor in the agenda of the LoN and the ILO, while keeping open the question of the distribution of its treatment.

However, the LoN Secretary General was reluctant to share Albert Thomas' point of view. His deputy, Inazo Nitobe, considered that “the resolution to the organisation of intellectual work [...] does not refer to – in fact, carefully avoids any mention of – intellectual workers”, but held out the possibility of an opening²². In his reply of 14 November, Drummond insisted that the purpose of the committee was indeed intellectual exchange. Moreover, he added that it did not “seem to him that this object involves, at least directly, the examination of questions of organization or protection of intellectual workers”²³. However, the Secretary General recognized the complete freedom of the future committee to

20. UNOG, SDN, R1029-13C-15769-14297, 5th commission, minutes, 10 September 1921.

21. UNOG, SDN, R1029-13C-15769-14297, Albert Thomas to LoN general secretary général, 13 September 1921. We underline.

22. UNOG, SDN, R1029-13C-15769-14297, draft letter to Albert Thomas, signed I.N. for Inazo Nitobe, 21 September 1921. This project is preceded by a note dated September 16.

23. UNOG, SDN, R1029-13C-15769-14297, letter to Albert Thomas, 14 November 1921. We underline.

establish its program, and accepted the proposal that an ILO member be invited to take part in its work.

In parallel with this exchange, the question of intellectual labor was addressed at the Third International Labor Conference held in Geneva in November 1921. Despite British opposition, the French delegate Justin Godart succeeded in getting a resolution passed. It invited the ILO Governing Body to study the creation of a Commission for Intellectual Labor²⁴. However, this body waited until July 1922, and left it to the ICCI, whose members had been appointed in May. Due to internal differences, the ILO was not ready to take on the question of the material interests of intellectual workers. It was not until 1927, with the setting up of the Consultative Commission for Intellectual Workers, that it did so²⁵. For the time being, in the early 1920s, this compromise by default enabled the ICCI to go beyond the sole question of intellectual cooperation.

2. INVESTIGATING SCIENCE

Armed with this implicit competence, the ICCI turned its attention to the material problems of intellectual life and work. The first project to attract particular attention was a survey of the situation of intellectual life in the aftermath of the conflict, which formed the basis for further work on the resources of scientific research.

2.1. A statistic for intellectual life

In the late 19th and early 20th centuries, plans for international statistics on intellectual life emerged in the wake of the growth of academic institutions and debates on intellectual work. Some journals, such as *Minerva. Jahrbuch der gelehrten Welt* produced resources that enabled comparisons to be made about university life in certain countries. In addition, the establishment of international conventions on industrial property (Paris Union, 1883) and copyright (Berne Union, 1886) led to the regular production of statistics on patents and book publications. Finally, other initiatives were developed as part of the movement towards scientific internationalism that characterized the period²⁶. For example, in 1901, the International Statistical Institute decided to set up a special committee to compile statistics on higher education. Two years later, the economist Carlo Ferraris published a Program for International Higher Education Statistics²⁷.

The ICCI was thus able to resume a series of reflections and practices aimed at apprehending the reality of intellectual life. It did so, however, with a sense of urgency, given the intensity of the crisis facing intellectuals in certain war-torn

24. *International Labour Conference, Third Session, Geneva – 1921*, vol. 1, *First and Second parts*, (Geneva: International Labour Office, 1921), 561-565, 777, 802.

25. Gisèle Sapiro, 'L'internationalisation des champs intellectuels dans l'entre-deux-guerres : facteurs professionnels et politiques' in *L'espace intellectuel en Europe. De la formation des États-nations à la mondialisation XIX^e-XXI^e siècle*, ed. Gisèle Sapiro (Paris: La Découverte, 2009), 111-146.

26. Eric Brian, 'Statistique administrative et internationalisme statistique pendant la seconde moitié du XIX^e siècle', *Histoire & Mesure* 4, no. 3 (1989): 201-24; Roser Cussó, 'La Quantification Internationale à La Lumière de La SSP et Des Congrès Internationaux de Statistique: Continuités et Ruptures', *Electronic Journal for History of Probability and Statistics/Journal Électronique d'Histoire Des Probabilités et de La Statistique* 6, no. 2 (2010): 1-19; Benoit Godin, *La science sous Observation: Cent ans de Mesure sur les Scientifiques 1906-2006* (Sainte-Foy, Québec: Presses de l'Université Laval, 2005).

27. Carlo Francesco Ferraris, *Programme pour une Statistique Internationale de l'Enseignement Supérieur*, (Rome: J. Bertero et Cie, 1903).

countries such as Russia, Poland and Austria. For this reason, at its first session in August 1922, the ICCI adopted a resolution inviting the LoN Council to entrust it with a survey of the situation of intellectual life in the various countries. In September, the LoN Council accepted the request, suggesting that the survey should focus on "the economic situation of intellectual workers"²⁸ Throughout the autumn, several members prepared a questionnaire, which they resubmitted to the LoN Council before forwarding it to the various member states²⁹.

This vast survey resulted in the publication of some forty booklets covering 22 countries, with the notable exception of Great Britain, and various themes³⁰. Although the responses were highly heterogeneous, they mainly concerned universities and higher education, as well as the material problems encountered by the various intellectual professions. The survey was also an opportunity to reflect on the methodological aspects of setting up international statistics on intellectual life, in order to facilitate comparisons³¹.

This interest was reflected in two other publications issued by IICI after its creation in 1925. *La Statistique intellectuelle de la France* was published in 1926 by Tatiana Chestov, head of IICI's analysis department³². This compendium had been prepared since 1925 thanks to a partnership between the French Ministry of Public Instruction, the Institute of Statistics of the University of Paris and the IICI itself³³. Comprising 125 pages, it brings together some fifty statistical tables on public education, libraries, theaters and shows, as well as publications. The data focus mainly on the number of students enrolled in educational establishments, or on attendance at theaters and libraries, but material and even economic aspects are acknowledged: several tables are devoted to the budgets of the various institutions.

The release of *La Statistique intellectuelle de la France* was accompanied by the creation of a Joint Commission on Intellectual Statistics between the IICI and the International Statistical Institute (ISI). The latter met for the first time in Paris from 3 to 6 November 1926, and adopted a significantly broader work plan than that which had been implemented in the French case³⁴. Themes such as cinema, museums, and inventions were added to those already adopted. Two further meetings led to the preparation of a report presented by French statistician Lucien March at the 17th session of the IIS in Cairo in December 1927-January 1928. Some sixty model charts were developed for an international survey of various countries. By 1931, some twenty States had responded to the IICI, but the reform

28. *League of Nations. Official Journal* 3 (part 2), no. 11 (1922): 1185.

29. UNOG, Enquiry into the Conditions of Intellectual Life in various Countries, Memorandum by the Secretary General, 11 December 1922, R1046/13C/25168/23024.

30. UNOG, Enquiry into the Conditions of Intellectual Life in various Countries. Brochures, 0000766261.

31. Julien Luchaire, *Observations sur la Méthode d'une Statistique de la Vie Intellectuelle*, (Genève: Société des nations, 1923).

32. Tatiana Berovski-Chestov, *Statistique Intellectuelle de la France* (Paris: Presses universitaires de France, 1926).

33. On this partnership, see the correspondance of IICI with several French actors : UNESCO, AG 01-IICI-B-X-2, IICI0000000721.

34. UNESCO, AG01-IICI-B-X-59-1, IICI0000000780, Commission mixte de statistique intellectuelle, Minutes of the first session, November 3-6, 1926. This meeting brought together : MP and mathematician Émile Borel (replacing Paul Painlevé), former Belgian Minister Jules Destrée, Lucien March, former Director of the Statistique Générale de la France, Coronado Gini, President of the Central Statistical Institute of Italy, Delatour, President of the International Statistical Institute, Julien Luchaire, Prezzolini, Head of the IICI Information and Documentation Section, Tatiana Chestov, Head of the IICI Analysis Department.

of the Institute considerably slowed down the project³⁵. The project's kingpin, Tatiana Chestov, was dismissed from the Institute due to staff cuts³⁶. Nevertheless, IICI continued its work on a more ad hoc basis, responding to requests from various organizations³⁷. Although the international intellectual statistics project never came to fruition, it provided a basis for work that made IICI a major player in the field.

2.2. Scientific research resources

Other initiatives reinforced the project to establish a genuine intellectual statistics service. In 1927, the Belgian government's announcement of an exhibition to be held in Liège three years later to commemorate Belgium's centenary gave rise to an exchange with the IICI. The organizing committee hoped that this event would also be a way of gathering as much documentation as possible on scientific research. Within the ICCI's Science and Bibliography Sub-Committee, the Mathematical, Physical and Natural Sciences Section seized this opportunity. It proposed launching a survey to answer the question: "What material resources does scientific research draw on?"³⁸.

When it was discussed by the subcommittee, everyone supported the proposal. For Marie Curie, "this problem is one of the most important the Sub-Commission has to deal with. Scientific activity is undergoing an acute crisis, as the need for equipment and personnel has increased, and governments and public opinion are not sufficiently aware of the need to develop the necessary resources"³⁹. The new survey was therefore a means of bringing the political problem of funding scientific research back into the spotlight. However, the implementation of the project suffered from the same difficulties as that of intellectual statistics. In the absence of an actual department, the survey was carried out within the scientific relations section by Jacob Evert de Vos van Steenwijk, its head, and Charles Mercier, his deputy. Despite material and methodological difficulties, it resulted in a long report presented in July 1930 to the 12th session of the Sub-Commission on Science and Bibliography⁴⁰.

The report presented by de Vos was warmly received by the members of the subcommission. Its chairman, Norwegian biologist Kristine Bonnevie, declared the report "one of the most important and interesting that the Institute has presented in several years"⁴¹. Although provisional, the report's findings were particularly striking. Firstly, from a methodological point of view, de Vos highlighted the difficulty of distinguishing between resources linked to higher education and those earmarked for scientific research. Moreover, the importance of funding for applied research was particularly high. Lastly, although no one emphasized it, the tables appended to the report revealed disparities that the members of the subcommittee could not fail to notice. Among the 25 countries

35. Lucien March, 'Note relative à l'état de la statistique intellectuelle', *Bulletin de l'Institut international de statistique* 26, no. 2 (1931): 605-609.

36. Daniel Laqua, 'Internationalisme ou affirmation de la nation ? La coopération intellectuelle transnationale dans l'entre-deux-guerres', *Critique internationale* 52, no. 3 (2011): 65.

37. François Simiand, 'Note sur la suite à donner aux résolutions concernant la statistique intellectuelle', *Bulletin de l'Institut International de Statistique* 28, no. 2 (1935): 485-487.

38. UNESCO, AG01-IICI-D-VII-26.1, IICI0000001165, rapport à la sous-commission des sciences et de bibliographie sur l'activité de la section.

39. UNOG, R2212/5B/706/6214, Sous-commission des sciences et de bibliographie, procès-verbal de la séance du vendredi 20 juillet 1928 à 10 heures.

40. UNOG, R2213/5B/21302/706, Sous-commission des sciences et de bibliographie, procès-verbal de la séance du 16 juillet 1930 à 9h30.

41. *Idem*.

surveyed for 1930, the United States stands out, with resources six times those of Great Britain and 20 times those of France. Prior to any publication, the survey of resources revealed quite significant differences in the funding of scientific research.

These results were all the more influential as they were not confined to the IICI or the CICI. Some of the Institute's contacts were aware of their existence, and did not hesitate to ask the Institute for more information. In the autumn of 1930, Hippolyte Ducos, French rapporteur of the budget for public education, approached the French government to obtain comparative data on French financial efforts in favor of scientific research. The French Director of Higher Education, Jacques Cavalier, was aware of the Institute's survey, and asked IICI for information and documentation⁴². Despite concerns about possible instrumentalization, the documents were sent to Cavalier, who embarked on his own research to compare the French and Belgian efforts⁴³.

Even if it failed to produce definitive results, the survey on the material resources of scientific research fed into political debates on an activity that has been undermined by the economic crisis. In this way, it contributed to an "investment in form" that helped institutionalize scientific research. This role is all the clearer when combined with the efforts of the ICCI and the IICI in the field of scientific property⁴⁴.

3. THE SCIENTIFIC PROPERTY CAMPAIGN

ICIC and IICI's concern for the material interests of science was not confined to information and investigation. The objective of improving conditions for intellectual workers encouraged ICCI members to study the possibility of modifying the legal framework. Among the various projects launched, the campaign in favour of an intellectual property system specific to scientific work and discoveries was one of the most significant markers of this dynamic⁴⁵.

3.1. Scientific property and intellectual cooperation

The scientists who supported the development of scientific property in France were to take this issue to these new international organizations. At the first session of the ICCI in August 1922, Bergson declared:

"There seems to be a very great injustice in the fact that the inventor of an application sometimes derives enormous profits from his invention, while the scientist who made the invention possible has no share in these profits."⁴⁶

It would appear that Bergson referred the matter to the ICIC at the request of the CTI. The French debate then took on a new international dimension, especially as

42. UNESCO, AG01-IICI-D-VII-26.1, IICI0000001165, J. Cavalier to J. Luchaire, 27 September 1930.

43. UNESCO, AG01-IICI-D-VII-26.1, IICI0000001165, confidential note from J. Vos van Steenwijk to J. Luchaire, 1 October 1930 ; lettre du directeur de l'enseignement supérieur au directeur de l'IICI, 17 octobre 1930. Cavalier met en évidence un effort par habitant supérieur de 50 % en Belgique par rapport à la France.

44. Laurent Thévenot, "Les investissements de forme", in *Conventions économiques*, ed. Laurent Thévenot (Paris : Presses Universitaires de France, 1986), 21-71.

45. David Philip Miller, 'Intellectual Property and Narratives of Discovery/Invention: The League of Nations' Draft Convention on 'Scientific Property' and Its Fate', *History of Science* 46, no. 3 (2008): 299-342; Galvez-Behar, *Posséder la science*, chapter 6.

46. SDN – Commission de coopération intellectuelle, *Procès-verbaux de la première session, Genève 1^{er} – 5 août 1922*, Genève, 1922, p. 32 [neuvième séance, 5 août 1922].

the other members of the Commission proved quite receptive. A subcommittee – made up of Belgian jurist and politician Jules Destrée, American physicist R. A. Millikan, Italian jurist and senator Francesco Ruffini and Spanish physicist Leonardo Torres Quevedo – was asked to draw up a report.

The latter was prepared by Francesco Ruffini and presented to the ICCI in August 1923. Ruffini argued for the recognition of an intellectual property specifically related to scientific discovery, distinct from industrial property and literary and artistic property. In Ruffini's view, scientific property should enable the scientist's contribution to economic progress to be rewarded, whereas industrialists were the main beneficiaries. Presented to the General Assembly of the League of Nations, the report was sent to the various member States for their opinion. Only thirty or so countries responded, and only ten voted in favor.

At the same time, other projects appeared. Leonardo Torres Quevedo proposed the creation of a fund financed by a tax on industry to reward scientists; Georges Gariel, deputy director of the Paris Union Office, took up this idea. Work continued throughout 1924 within the ICCI's subcommittee on intellectual property, which proposed convening a commission of experts to study the question⁴⁷. However, during 1924-1925, the issue struggled to make headway. In July 1925, the Sub-Committee on Intellectual Property suggested launching a consultation of industrial circles to revitalize the movement⁴⁸. The LoN Assembly endorsed the suggestion, but asked the ICCI to involve the LoN Economic Committee in its work⁴⁹. Initiated by intellectuals and scientists, scientific property became an increasingly important legal and economic issue.

The creation of the IICI in 1925 accelerated the project. Within the Institute, the legal section played a major role in the debates. Raymond Weiss, son of one of the great figures of international law, André Weiss, was the section's linchpin. He was supported by Marcel Plaisant, a French intellectual property lawyer and member of parliament. In addition to individuals, the status of the IICI meant that it worked closely with other institutions linked to the League, such as the ILO and the Economic Committee. Based in Paris, the Institute was also able to collaborate with other international institutions such as the International Chamber of Commerce.

A strong opposition came from business circles. While the Economic Committee of the League of Nations contested the International Institute's method, the International Chamber of Commerce echoed the views of industrial organizations. On 11 January 1926, a meeting was held between members of the ICCI and several organizations representing the business world. Olivetti, speaking on behalf of the Fascist General Confederation of Italian Industry, considered that such a project would create a worrying situation of uncertainty for industry⁵⁰.

The IICI nevertheless stayed the course, and in December 1927 convened a committee of experts to draw up a preliminary draft international convention. Far less ambitious than the Ruffini draft, it was rejected by more than two-thirds of the forty or so countries that had taken a stance on the issue.

47. Idem

48. IICI 535 : CICI/PI/5^e session PV I [séance du 22 juillet 1925].

49. Yann Decorzant, *La Société Des Nations et La Naissance d'une Conception de La Régulation Économique Internationale* (Bruxelles: Peter Lang, 2011).

50. Raymond Weiss, "La propriété scientifique" *Cahiers des droits intellectuels* 2, no. 2, (1929): 58.

3.2. The benefits of a failure

However, things were moving forward on the national front. In France, in May 1927, a committee was set up to prepare a preliminary draft law concerning the authors of scientific discoveries or inventions. It gathered several jurists and senior civil servants, as well as the director of the Museum of Natural History and the physicist Paul Langevin. During 1927, the commission drew up a text. In early 1928, an interministerial commission was set up to turn this text into a bill⁵¹. Among the commission's members were the mathematician and member of parliament Émile Borel, Marcel Plaisant, Paul Langevin or Marie Curie.

Several members of this interministerial commission turned to the IICI and especially to Weiss for additional support in their endeavors. The early 1930s saw an intensification of relations between the IICI and French scientists involved in promoting scientific property. Raymond Weiss collaborated with Marie Curie to prepare a speech on scientific property to the French Chemical Society⁵². Marie Curie tried, with some success, to promote the issue within the Académie de Médecine. Émile Borel did also ask the Institute's legal section for information. A de facto convergence was established between the Institut, which was trying to promote scientific property at international level, and these scientific players who were trying to make headway in France. In May 1931, a subcommittee devoted to the rights of scientists and the recruitment of researchers was set up within the French Committee for Intellectual Cooperation⁵³. It gave rise to interesting discussions, in which two different conceptions of scientific property came into conflict: an individualistic one, with a right linked to the person of the scientist, or a collective one, where science had to be financed globally by industry⁵⁴.

No international convention on scientific property was finally adopted between the wars. Nor was any legislation passed in France. From this point of view, mobilization, which continued until the eve of the Second World War, was a failure⁵⁵. Yet things are more complex. In France, the debate on scientific property fuelled discussions on the financing of science, which led to other reforms⁵⁶.

Internationally, the failure must also be qualified in view of the results of the 1934 Paris Union Revision Conference⁵⁷. The latter gave rise to important debates on two subjects linked to scientific property: the inventor's moral rights and the status of scientific communications for the validity of patents. While no agreement was reached on the second point, despite strong initiatives from France and Italy, the first was sanctioned by Article 4 quinquies of the revised Paris Union Convention. According to the new provision, the inventor had the right to have his name mentioned in a patent, even though this latter belonged to his employer.

51. "Droit des auteurs de découvertes ou inventions scientifiques", *Journal officiel de la République française*, 19 and 20 March 1928, 3059.

52. BNF, Manuscrits, Fonds Pierre et Marie Curie, NAF 18463, f° 151-152, lettre du 15 janvier 1931.

53. *La Coopération intellectuelle*, 1931, p. 231.

54. IICI 182 : Commission française de coopération intellectuelle – Feuille d'information – n°14, mai 1934.

55. Une coordination internationale des droits intellectuels est, semble-t-il, lancée. *La Coopération intellectuelle*, 1935, p. 308. À l'occasion de l'Exposition universelle de Paris en 1937 la question est à nouveau évoquée.

56. Gabriel Galvez-Behar, 'Institutional Enterprise as a Compromise: The National Organization of Science in France', *Management & Organizational History* 12, no. 3 (3 July 2017): 237–60, <https://doi.org/10.1080/17449359.2017.1357785>.

57. Union internationale pour la protection de la propriété industrielle, *Actes de la Conférence réunie à Londres du 1^{er} mai au 2 juin 1934*, Berne, 1934.

It represented a symbolic but essential step in the recognition of intellectual work that had inspired the proponents of scientific property. As in the case of the surveys, the campaign in favor of scientific property had raised the profile of the problem of funding scientific research. It also led to some progress, albeit minor in relation to the initial objective, on the legal front.

4. CONCLUSION

The ambitious objectives set by the IICI's initiators in terms of support for intellectual workers have certainly not been achieved. Not only have the surveys failed to establish a homogeneous and regular framework of analysis, but the plans for an international convention on scientific property did also not succeed. This lack of results may confirm the diagnosis of a failure on the part of the intellectual cooperation community in these respects.

However, there are several reasons why such a conclusion would be wrong. First of all, it should be remembered that the idea of the ICCI taking on issues relating to intellectual workers was not an obvious one at the very beginning of its existence. The fact that its members were able to impose such items on the agenda was a first success that enabled this unprecedented institution to embark on other projects.

However, it was the work carried out to prepare surveys or draft conventions that was a notable achievement. Not only because no official international organization had previously carried out such work, but also because this activity produced non-negligible collateral effects. The surveys of intellectual life produced in the 1920s did give rise to publications. The resources survey was indeed the subject of an attempt at instrumentalization at the heart of questions about the funding of science. The initiatives on scientific property led to progress both in legal terms – albeit minimal – and in ideological terms on the status of scientific research. As a result, the ICCI and the IICI established themselves as one of the key institutions for the institutionalization of scientific research between the two world wars. In this respect, they were a fruitful failure.