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Cernuschi vs. Papp: The Uruguayan Dispute over the History of Science

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Abstract:

This paper aims to revisit the intellectual tension in the River Plate region surrounding a dispute between the Hungarian philosopher Desiderio Papp and the Argentine-Uruguayan physicist Félix Cernuschi when they were contenders for the Chair of *Scientific Thought* at the School of Humanities and Sciences of the Universidad de la República in Uruguay. Their disagreement was personal, political, and philosophical and divided the waters among the emerging community of physicists in the region and a group of actors who, for some time, had been devoted to the History of Science in the universities of the region. The History of Science constituted the battleground out of which it would emerge how science should be understood in a Uruguayan university that, historically speaking, had been remiss in providing an appropriate space for its development. In revisiting this event, this paper seeks to throw light on the present situation of an almost non-existent History of Science in Uruguay.

Keywords: Historiography of Science in Uruguay; Félix Cernuschi; Desiderio Papp; School of Humanities and Sciences; History and Philosophy of Science in Latin America.

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How Can the Historiography of Science be Reconstructed in a Desert?

The study of the History of Science in Uruguay can be likened to a desert. In the first place, because up to the present, it is not institutionally cultivated in any university or research centre, nor is it fostered by any *academic society* or *professional organisation*. In the second place, it is a very difficult project to think about the task involved in *cultivating* the discipline on such an arid, forgotten field, subsumed under the approaches of other disciplines such as

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Epistemology, which fulfilled – in their ways – some of the tasks associated with the History of Science. This makes historiographic reconstruction of the history of science in Uruguay all the more complex because the various signs of life – work produced by researchers, which, from the perspective of their disciplines described the history of one or another discipline – lead us to isolated narratives of discontinued experiences, but not to the account of a History of Science going beyond individual track records and which is, at the very least, an institutional concern.

So, faced with the task of entering the desert with no other certainty than seeking out the isolated accounts of the history of medicine, of mathematics, or of chemistry, the driving motivation behind this paper is to understand how this almost-vacant situation was reached. This way of reconstructing the historiography of science in the country is driven by a wider-reaching explanatory purpose: to provide justifications that will allow us to understand why it was not possible to form a fertile field for the study of the History of Science, in spite of mid-twentieth century leading exponents practising the discipline in a professional and outstanding manner. This study seeks to find an interpretation of an event – the dispute sustained by Hungarian philosopher Desiderio Papp and Argentine-Uruguayan physicist Félix Cernuschi when they were contenders for the Chair of *Scientific Thought*, in 1950.

This reconstruction effort also means finding documentary sources beyond those provided by institutions. This study analyses a variety of sources, which open up roads yet to be explored. The main documentary corpus is taken from the School of Humanities and Sciences (*Facultad de Humanidades y Ciencias*, FHS) Archives, mainly consisting of the personal documentary files of the protagonists of the event, as well as the Proceedings of the FHS Council. In addition, there are reports taken from journals and magazines of the period, such as *Ciencia e Investigación*, the journal of the Argentine Association for the Progress of Science, and also correspondence found in the Guido Beck Archives in the Brazilian Centre for Physics Research.

The Dispute and its Context

On December 22, 1950, a resolution taken by the Council of the School of Humanities and Sciences approved the call for candidates to teach a course on “Scientific Thought”, as part of the BA course in History. The creation of this course sought to remedy the “insufficient scientific training” of History students (FHS Archives 1951). The proposal for the creation of the course had come from philosopher Desiderio Papp Pollack, a Hungarian professor who had been teaching Epistemology since 1947. Papp was also the author of many books specialising in the History of Science, well-known in the Spanish speaking world. Together with Papp, was another candidate for the position, the Uruguayan-born, Argentina- and Cambridge-educated Félix Cernuschi, who had held the Chair of Astronomy in the School since 1949.

As the FHS Council was proceeding to study the applicants’ files, on March 2, 1951, Professor Cernuschi sent a note strongly denouncing Desiderio Papp, making two accusations against him: firstly, of having lied in his CV when Papp held a post at the University of Tucumán, in 1946, where he stated that he had been a professor at the University of Vienna, which was later checked and found to be untrue (FHS Archive 1951c). Cernuschi’s second accusation referred to Papp’s academic quality:

Mr Papp’s books are simply for a general readership and even if they did not contain errors, they could not be considered of sufficient merit for university teaching. Mr Papp’s books are filled with false concepts and ideas that clearly show Mr Papp’s lack of scientific training. He may have some literary training, **but I do not like to give an**

opinion on matters I have no understanding of. (FHS Archive, 1951d, Emphasis in the original.)

The note gave rise to a situation between the two men, as well as within the Council, that ran on for several months and was even taken to court. The tension, as we shall see, hid a far more complex undercurrent than a simple confrontation between academics. In order to understand the whole story, we must move back in time, as well as geographically.

Scientists and Peronism

First, we will need to go back from 1950 to 1943, from Uruguay to Argentina, from the Universidad de la República to the University of Tucumán.

In June 1943, a military coup in Argentina ousted Ramón Castillo's government. A good part of the scientific and academic communities holding University positions started to publicly express their discontent over the increasing authoritarianism advancing into some universities, such as the early intervention in the University of El Litoral in Santa Fe (Buchbinder 2010, 145). Among the most prominent Argentine academics was Félix Cernuschi, who, on November 15, 1943, was separated from his post in the Department of Astronomy of the University of Tucumán (UNT) and forced to flee the country because of political persecution. The university, created in 1914, had been founded following the University of La Plata model, an avant-garde university in the continent due to its clearly scientific profile. Within the scientific development framework of the UNT, physics played a uniquely important role when German physicist José Würschmidt was hired in 1925. Würschmidt's work, creating both human and material resources for the practice of physics, was decisive for the country as a whole, but very specifically too for Cernuschi and Papp, as they were hired to work in the new areas Würschmidt had opened up. Würschmidt was responsible for establishing the Institute of Physics at the UNT in 1931, the physics teacher training programme for the province, and the undergraduate physics programme in 1943 (Tagashira 2012, 97-98). Italian mathematician Alessandro Terracini and Cernuschi propelled the development of the Institute of Physics within the country and out into the region, integrating its production to that of existing scientific associations. One of the most significant milestones was the publication of the *Revista de Matemáticas y Física Teórica* (Journal of Mathematics and Theoretical Physics) in 1940, which included a previously unpublished article by Albert Einstein in its second issue (Luciano 2020). Although this small group of physicists had established the BA courses in Physics and Mathematics at the University of Tucumán, several of the most renowned academics of this new university did not escape persecution from the de facto government. In November 1943, by order of the Executive Power, Cernuschi was stripped of his job, which started political persecution that prevented him from finding employment of any kind in Argentine universities.

Desiderio Papp's led an eventful life, full of incidents that included escaping Nazi persecution in Vienna, Spain and France. He finally arrived in Argentina in 1945, where he obtained a position at the University of Tucumán after working for other Buenos Aires institutions. But the following year, 1946, with the UNT intervened by the state, Papp was dismissed due to his claim, included in his CV, that he had been a professor in Vienna. For the same reason he was expelled from the Argentine Physics Association (AFA), where he was an active member. This was a crucial point because, through the AFA, a crusade against Papp's publications was embarked upon by a community of physicians (and even philosophers) – and not only against his publications, but against his person, against his

philosophy of the history of science, and at the same time questioning his moral integrity.² In order to understand more clearly why he was rejected, it is also necessary to realise that once Juan Domingo Perón became President, his Minister of Health, Ramón Carrillo, with whom Papp had forged a strong friendship, decided to hire him to teach a course on the History of Science at the Medical Association (FHS Archives 1951i; Kohn Loncarica 1994, 205). So that Papp could, in effect, be hired for the post, the matter of his dismissal had to be resolved, as a professor at a state university could not take on a new government post after having been dismissed from another post by the same government – a government, in fact, led by someone who was the focal point of strong criticism and resistance, voiced by the Argentine scientific community.

So, coming back to 1950 and the FHS, it is clear to see that the dispute for the chair was highly charged with political implications, which were neither passing nor contingent, nor merely personal or in connection with the post itself. The incidents bear on Cernuschi's animosity towards Papp, whom he constantly accused of being a "spy for Perón's government", underscoring the division between the scientific community and political power that had permeated Argentina since 1946. But to this, we should add another philosophical dimension, referring to the ways of understanding what is truly implied in constructing scientific knowledge.

Setting Academic Standards

Cernuschi's second objection to Papp is connected to whether he was academically qualified to teach a course such as *Scientific Thought*. We have seen that Cernuschi considered Papp's publications as "simply for a general readership", and even if they did not present errors, "they cannot be considered of sufficient merit for university teaching". Notice that in addition to the ethical question concerning alleged lies in Papp's CV about his educational background, he is further accused of not having the expected academic level to qualify for university teaching, based on what can be deduced from his literary work. This fact allows us to see that the criteria that Papp and Cernuschi, respectively, considered appropriate as academic qualifications greatly differed.

Cernuschi's accusation is based on his own academic track record, and those of his colleagues. It should be remembered that Cernuschi graduated as an engineer in Buenos Aires, and, on the recommendation of the physicist Enrique Gaviola, he went to England to study for a PhD in Physics. Once he was accepted as a doctoral candidate at Magdalene College, Cambridge, he devoted his studies to statistical physics, under Paul Dirac. This is a branch of quantum mechanics which using probability, seeks to describe a system of particles under the general laws of the quantum world (Isaacs 1996). This use of mathematics to resolve problems in physics by linking the two great phenomenal dimensions of the world had been undergoing extensive research since the 1930s in the most prominent physics centres in Europe and the United States and would later be of great use to Cernuschi for his work on astronomy. It is important to point out, in order to understand Cernuschi's dispute with Papp, that Cernuschi's formative studies reveal someone entirely immersed in the scientific community of physicists in those decades, which was organised and oriented entirely to the resolution of problems connected with understanding matter, its composition and behaviour, using strictly defined tools and techniques. During his years in England,

² It should be pointed out that before the irregularities in his CV were discovered, Papp's participation in, and ties to, the scientific community in Argentina went undisputed and were recognised. In 1945, in Buenos Aires, the First Colloquium of History and Philosophy of Science took place, sponsored by the Argentine Union of Mathematics and the Spanish Cultural Institute. Rey Pastor, Papp, Lindemann, Terracini, Mieli, Würschmidt, Beppo Levi, José Luis Massera, among others, were active participants. (Revista Unión Matemática Argentina 1946, 211-212)

Cernuschi wrote a number of papers published by the Mathematical Proceedings of the Cambridge Philosophical Society, which set out his initial research interests (Cernuschi 1936; Cernuschi 1938). In 1939 he published a paper in *Le Journal de Physique et le Radium* on neutrons which continued the line of research begun in England (Cernuschi 1937), and was the basis for his relationship with radiochemist Moïse Haïssinsky, of the *Institute de Radium*, which had been directed by Marie Curie (Giambiagi and Giambiagi 1996). On his return to Argentina, he positioned his work firmly in the field of astronomy. Thus, the study of neutrons is taken as the crux to understanding the nature of *supernovas* in his 1939 articles in the journal *Physical Review* (Cernuschi 1939a; Cernuschi 1939b; Cernuschi 1939c), published at the time when he was working together with Gaviola in the National Observatory in Córdoba. These are his first studies in astronomy, the discipline which was to figure in the dispute with Papp about the qualifications and academic production needed to lead the Chair of Scientific Thought.

On the other hand, Papp did not write for academic journals: he wrote as an author. He did not write papers or articles; he wrote books. His work was not peer-reviewed; he was “reviewed” by readers. Nevertheless, his work does not lack references to authors, concepts and terms connected with the study of the discipline. There is no doubting his erudite knowledge of historical periods, explanatory models, instruments for each period, or archaic ways of calculating the position of stars in the firmament. But this does not appear to be the field of modern theoretical physics, based on mathematics, in which the world of astronomy was immersed from the beginnings of the 20th century. This marks an insurmountable difference between the two men, summed up in one of the notes Cernuschi presented to the FHS Council stating the reasons why he had applied for the post:

I decided to respond to the call not only because I was and am deeply interested in the subject of the course (**in order to understand scientific thought, it is of supreme importance to have worked in some of the specific branches of science and especially in the more evolved ones, such as the so-called exact sciences**) but also so that the Governing Council might have the chance to seriously consider reviewing and investigating Mr Desiderio Papp’s academic background. (FHS Archives 1951e)

The criteria regarding what is scientifically acceptable in Cernuschi’s view, lie in having practised science in order to be able to speak with authority on issues related to the History of Science. In other words, the history of science must be forged by someone who has made science. But once again, this strong and structured position does not spring from the dispute produced by the call; rather, the dispute also has a history and a context which allows us to recognise the tension involving two strong philosophical positions in the region.

Therefore, we should go back to 1945, when Papp published his *Filosofía de las leyes naturales* (The Philosophy of Natural Laws), a book that produced a division of the waters about understanding the History of Science. The journal *Ciencia e Investigación* (Science and Research, the publication of the Argentine Association for the Advancement of Science) of that year, published a review by an Austrian philosopher, Hans A. Lindemann. Lindemann had been invited to write an article for the first issue of *Minerva*, a journal begun by a young Mario Bunge, then a physics student. The publication has been considered the first example in the continent of the scientific philosophy born out of the Vienna Circle. Lindemann’s criticism of Papp’s book in *Ciencia e Investigación* is harsh:

For the student or the non-specialist scientific researcher who might wish for guidance referring to the problem with the book, the fact is that it actually is dangerous because, instead of precise definitions, it is filled with badly-defined concepts, often contradictory, which will only trouble the unsuspecting reader, and not provide the necessary clarity and precision on the majority of the philosophical and

epistemological problems dealt with in the text. Everything purely physical, rural, is treated with undoubted mastery and knowledge. (Lindemann 1945, 461)

Papp responded to this critique in the issue for December of the same year of the same magazine. His argument in reply is based on repositioning metaphysics as a crucial element of scientific research:

Lindemann should know that any proposition adopted about the relationship between idea and object will inevitably lead to the metaphysical thesis, which is necessarily hidden within all scientific propositions. A science eliminating metaphysics completely would be renouncing the reality of the objects it investigates and would be unable to admit that the laws of nature are knowable by the human spirit. (Papp 1945b, 580)

To reconcile the differences between the two men would obviously mean entering areas that are beyond the scope of this paper because it would imply not only reviewing their philosophical starting points, but also the philosophy of the scientific currents they claim to represent. However, what is, in fact, of interest is that the reception of Papp's work, criticised by Cernuschi, was also negative within a larger circle of scientists and philosophers. For example, in a letter to José Würschmidt, physicist Guido Beck, who was working in the National Observatory in Córdoba and was Bunge's tutor at the time, comments on the diatribe in *Ciencia e Investigación*, pointing out the author's questionable attitude regarding Lindemann's critique:

Much worse is Papp's reply to Lindemann's critique (C e I, December 1945). The fact that Papp is upset about the criticism as a human being is understandable, but as a scientist, he should be able to put that aside. If an author has very good factual reasons to complain about criticism, he should lodge complaints with the editor's office, demand more factual criticism in future, and possibly a second critique from an independent source. In no event should he degrade a journal by exhibiting a dispute between an author and his critic about whether the critique is "bad" or "good". Additionally, Mr Papp does not attempt to adopt a factual position regarding the critique; rather, he simply states that the critique "was not justified on any point". He seems to want to counter the criticism by attempting to deny Mr Lindemann's factual competence. This is completely inadmissible and goes beyond the scope of the problem itself. It damages the legitimate interests of the critic, the journal, and its readers. (Videira and Puig 2020, 236)

Years later, it was clear that resistance to Papp had not waned: in 1949, in a letter to Cernuschi, Lindemann maintained his unchained judgement of the work carried out by the Hungarian philosopher:

Let me tell you frankly that I have little faith in Papp's knowledge of physics. Although I'm not a physicist, I do have some understanding of the subject thanks to the classes I attended by Schlick and other physicists in Vienna. It was only not to offend Rey Pastor, who protected Papp, that I praised his knowledge of physics. Unfortunately, it is always inferior people that Dr Rey Pastor chooses to protect. I really do not know why! (FHS Archives 1949)

Another name now crops up: Julio Rey Pastor. Julio Rey Pastor held a very different position from that of Cernuschi and Beck, which in some ways meant firm support for Papp's production. It is important to point out Rey Pastor's high positioning within the River Plate's nascent scientific community (Ortiz 2011). Cernuschi himself named Rey Pastor as a great

mentor in his university days, the first of his teachers to encourage him to pursue a scientific career (Cernuschi 1994, 39). But the fact is that Rey Pastor also had a background as a historian of mathematics, a side he developed following a visit to Berlin and Munich, where he studied the work of sixteenth-century Spanish mathematicians. This interest in the History of Science probably explains his understanding of the nature of Papp's work, far from the hard positions characteristic of his students, such as Cernuschi. A significant point in the discussion on the quality of *Filosofía de las leyes naturales* must refer to the fact that the introduction to the work was written by Rey Pastor himself. In a letter written by Rey Pastor to Guido Beck, where he mentions his "personal" disagreement with the Argentine Physics Association, he includes a paragraph about Papp's work, showing the usefulness of this kind of philosophy for a scientific education:

In my last letter, I forgot about the Papp affair; I truly believe you are being too hard on him. Clearly his place is not in an Observatory or experimental course, but this is a pedagogic Institute whose mission is formative, and for this, I think that, rather than complicated formulating, it is more effective to give basic ideas on the structure of the world and to study the interesting and dramatic history of Astronomy. In the other secondary education teacher-training institutes there are similar courses, which, judging from their performance, seem destined to produce hatred for the science of the stars, based as they are on series and trigonometry formulae. (...) I am certain that Papp's performance would be infinitely more competent, even if we did not take into account his superiority regarding culture and general knowledge of every kind, in comparison with the average Argentine university environment (Videira and Puig 2020, 250-251).

However, Beck's position did not appear to be changing. In the same letter he wrote to José Würschmidt, Beck commented on an article by Papp published in *Ciencia e Investigación, El 50 aniversario del descubrimiento de los rayos X* (On the 50th Anniversary of the Discovery of X-Rays), dedicated to the memory of Wilhelm Röntgen (Papp 1945, 491-492), saying "It is not very apt and contains many more words than content. It is in the worst South American tradition" (Videira and Puig 2020, 236). I should like to pause at Beck's last comment, because it will allow us to enter one of the matters of greatest interest to this group of physicists, that of eradicating types of intellectual work they considered empty, mere empty words. This is the "worst tradition" that Bunge and Lindemann pronounced against philosophy from the few issues of *Minerva* that were published. Bunge himself was to recall in his academic memoir the case against Papp as a case of scientific fraud,³ showing how that episode carved out a chasm between the emerging scientific community and a South American philosophy established in universities that based their studies and courses on German-language authors or philosophers like Ortega y Gasset (Salmerón 1991). This allows us to see that the standards and criteria that the group of physicists sought to impose

³ Bunge writes: "Other cases of fraud in which the AFA was involved were those connected to the science historian, Hungarian Desiderio Papp, and the German physicist Guillermo Klein. Both had escaped from Nazism at the last moment. Papp wrote several popular books on the history of science. He also attended some AFA meetings, where he was admitted because he was thought to possess a PhD in Astrophysics from the University of Vienna. When talking to him, Gaviola suspected that this was not true, and once the war was over, he wrote to the University of Vienna to enquire about Papp's thesis. The answer was that there was no trace of his doctorate. This contributed to explaining why Papp's published works were superficial, only limited to listing the production of his characters. An AFA meeting expelled Papp. But he seemed not to care, and continued publishing, because he and my friend, mathematician José Babini, were the only historians of science left in the country after the death of Aldo Mieli" (Bunge 2014, 92-93).

were not reduced exclusively to their own field of science, rather, they constituted a form of intellectual life based on the precepts of scientism.

Empiricism and Rationalism: A Philosophical Dispute

In ethical and professional terms, the different ways of understanding how to approach academic life divided the waters, with Cernuschi and the physicists defending one side, and Papp, supported by Rey Pastor, defending the other. The distance between them was also expressed in the philosophical realm, where both assumed irreconcilable positions, as can be seen from the discussion which arose over the book *Filosofía de las leyes naturales*.

The book's arguments must have been quite provocative for a physicist working in the first decades of the 20th century, when so much progress was made in the description of the subatomic world, especially through the construction of experiments. For Papp, and this is stated in the opening pages of the first chapter, *La ley y el espacio* (Law and Space):

Science – despite what is said in handbooks about the empirical bases and inductive methods of Galilean physics and consequently present-day physics – has never forgotten its Euclidean origins; its spirit has never been fundamentally unfaithful to its geometrical ancestry. Throughout all its history, science has preserved a nostalgia, more or less manifest, for its Hellenic and geometrical filiation. (Papp 1945, 18)

Cernuschi openly rejected this premise in his arguments against the quality of Papp's work which he presented at the FHS Council:

(...) the thesis underpinning his book: he raises from the dead rationalism long left behind. As is well known, for Descartes and Leibniz, physics was an extension of mathematics. Descartes strove to despise experience and replace the world of physics with a world "which is the object of geometrical speculation". Hegel believed that science could become a great tautology awaiting an explanatory principle coming from "another place". We could go on, referring to many philosophers who developed various aspects of rationalism. What is a novelty to me, are the contradictory and nonsensical arguments used by Mr Papp to "defend" a defunct thesis. (FHS Archives 1951, 79)

For Cernuschi, "the relationships required by knowledge of the physical world cannot be 'deducible' from the demands made by our reason". For this point, he resorts to examples that show that things that are, are not explained by the *necessity* of the deductions of thought: for example, that our planet has only one satellite, and not 2 or 3; nor that Newton's law of gravity is shaped by the *necessity* of reason. Cernuschi's point is that the laws of the physical world do not manifest any *necessity* whatsoever, they are synthetic a posteriori propositions, whose value is "probabilistic".

To sustain the opposite, as Mr Papp does, it is necessary to be unaware of the genesis and verifiability of scientific knowledge, the history of science, and elementary notions of epistemology. (FHS Archives 1951h, 79-80)

A second point in the discussion, derived from this great dispute on how scientific knowledge is effectively constructed, and which will probably help explain even better the disagreements with Lindemann mentioned above, has to do with the philosophy of science and the understanding of science built on the precepts of logical positivism. This point in the dispute is expressed in the second chapter of the book, *Las leyes naturales, ¿son leyes de la*

naturaleza? (Are Natural Laws laws of nature?). Papp's purpose is to show, as has been stated, the existence of a necessary metaphysics underlying the entire series of theories and laws produced in the field of physics, especially from the third decade of the 20th century on:

Unlike philosophical thought, scientific thought admits, in its striving to forge an intelligible image of the phenomena it confronts, more or less consciously, three metaphysical hypotheses. It accepts the reality of the outside world; it is convinced a priori that the inconsistency in the area of phenomena, and the disorder in their progress through time, conceal laws; finally, it assumes that laws are rational, knowable by the spirit. (Papp 1945, 64)

Papp goes on to discuss the philosophical bases of the Vienna Circle, recognising Ernst Mach's authority on the subject and the attitude of physicists such as Heisenberg, Born and Jordan, who worked on a "physics of the observable". The problem for Papp lies, precisely, in reducing what he calls the "being" to "the complex of our perceptions; the physical real to the psychic content of our conscience". So, in his view, so-called *positivism* "vaporises all that is positive into appearance without reality", and "makes visible and palpable nature a mere tissue of our representations". The most immediate and radical consequence which should arise from this doctrine, according to Papp, is a fall into a solipsism "of the 'I' locked forever in the narrow prison of perceptions, powerless to know a thing of any kind of the world around us. This sterility will be the price to pay for having eliminated from science every hypothesis, every non-observable mental construct, the fatal recompense for having expelled metaphysics" (Papp 1945, 64-65).

Cernuschi's reply to this was that it was "impossible" to reconstruct a "more clumsy caricature of the Vienna Circle, or of logical empiricism". And in order to discredit the positions defended by Papp, his resource was to cite an authority on the subject, Arthur Eddington, who was not a member of the Viennese movement, but whose book *Philosophy of Physical Science* defends empiricist modes of knowledge. The exchange between the two contenders follows Cernuschi's analysis of every example Papp gives in the book, although the argument always really lay in the eternal dispute between radically rationalist positions and radically empiricist ones. One of these was about defining whether Galileo effectively constructed his knowledge by following deductive modes or whether it was based on induction, carrying out various scientific experiments in a laboratory. Again, their positions are so absolutely and radically opposite, that from certain passages found in the documents consulted, it appears unlikely to reach, as both men must have hoped at the time, some definitive resolution regarding these contrastive readings.

The End of the Story Told from the Present

The Council of the School of Humanities and Sciences of the Universidad de la República decided to give Papp the chair. The Advisory Committee, composed of two members, the Dean, Jiménez de Aréchaga (a constitutional lawyer who, because of the repercussions of this affair – among other matters – resigned in 1951), and the biologist Clemente Estable, did not reach an agreement. The Council's argument was centred mainly on the first point of Cernuschi's denouncement: Papp's moral suitability, his "imposture" and the questionable relevance of this past situation on the present tender, which was taking place five years later. Papp won, with five votes in favour, and two abstentions. Cernuschi got no votes. This might lead us to think that all this small academic battle gave us Papp as a winner. But in fact, this has not been the case, if one looks at the present-day situation: History of Science is a great desert in the Universidad de la República.

How was it that, with Papp having won the tender for Professor of Scientific Thought, his work was not continued through some of his students, following and expanding his lines of thought? It is very likely that the fact that Papp did not live in Montevideo, but travelled every week from Buenos Aires to teach his classes, might have made it difficult for him to be academically ambitious in Montevideo. Papp worked in the FHS until 1963, and was succeeded by the philosopher Mario Otero, who replaced him as professor of *Epistemology* and of *Scientific Thought*. Several years later, Otero founded the Department of History and Philosophy of Science, but the philosophical profile adopted did not pursue the historical interest noted in Papp's work. In his inaugural lecture as Chair of Epistemology in 1964, Otero spoke about the *Current Situation and Functions of the Philosophy of Science*. In the lecture, he described the kind of programme he was seeking to develop:

To have the aim of elucidating the telos of scientific thought is the ultimate task, to be undertaken only in the light of specific investigations focussed on the various aspects of concrete scientific knowledge. The opposite approach might seem very "profound", but it will inexorably lead to vagueness, to rampant speculation, or to chattering about science with a capital letter. The most appropriate method to avoid both that nebulous focus as well as its opposite, pedestrian particularising scientism, is that which proceeds to studies of increasing generalisation which at every stage will hold, by means of rational reconstruction, scientific action and theorising. This is precisely what the philosophy of science attempts to do. (Otero 2019, 26)

Later on in his speech, as if trying to return to the old arguments sparked by *The Philosophy of Natural Laws* almost twenty years before, Otero expounds two modes of doing philosophy of science "which are not necessarily in opposition": i) one is exemplified in the works of authors such as Meyerson, Duhem and Bachelard, key authors for Papp; ii) the other mode is that originated in the manifest of the Vienna Circle. It is interesting to note that for Otero it is the latter mode which should be practiced, not for its empiricist theses, nor for its rejection of metaphysics or for sustaining the dichotomies of analytic and synthetic propositions. What the new scientific philosophy offered, as a distinctive and determining element, was

[the] very mode of doing philosophy of science based on dialogue and on criticism; it is the *collective* mode of doing philosophy (...). In our understanding it is precisely the use of these means of communication and philosophical dialogue, so often overlooked, that constitutes the fundamental and characteristic element of the study of the philosophy of science today. (Otero 2019, 29)

The dispute over the chair of Scientific Thought allows us to recognise certain elements soliciting our reflection in more detail about the past of the History and Philosophy of Science in Uruguay. Furthermore, it seeks out the old disputes within the later context of these spaces devoted to the reflection on science. Far from an administrative struggle, the dispute was rather a grand discussion on the consolidation of a scientific authority within a university and a country attempting to begin developing in that direction; the way this discussion occurred helps us understand – to a certain degree – some aspects of the desertlike situation I have referred to. At the end of his inaugural lecture, Otero took the time to thank all those who had guided him in his formative years, and had contributed to his attaining the chair of Epistemology. Among the names on that select list is Cernuschi's, but there is no mention at all of his predecessor in the position, Desiderio Papp, who had held that same chair for over 15 years.

The dispute stemming from the question of university ethics, Cernuschi's arguments as read in his texts, and the implacable hardness of his actions, should not be explained as

alien to the circle of physicists he was part of. Undoubtedly, the construction of the discipline of physics in those years being in the hands of the first professional physicists of the River Plate area, most of whom had been in contact with elite scientific circles, meant that it was them who would impose the criteria they considered necessary and inalienable to institutionalise science in the continent's universities. In an article published in 1952 by the Newsletter of the Asociación Uruguaya para el Progreso de la Ciencia (Uruguayan Association for the Advancement of Science), Cernuschi referred to the matter concerning universities and the conditions needed for the proper development of scientific research. Among several points, Cernuschi pointed out that “the spirit of scientific research is the preeminent condition for a true social morality to blossom, because one of its inexorable pillars must be the defence and verification of truth” (Cernuschi 1952, 8-11).

These standards linking the professional activity of science to a moral hierarchy in society, are not a mere whim of Cernuschi's. The same attitude is present in the writings of Enrique Gaviola and Bernardo Houssay. This moral ruling of the proper way for a university scientist to act worked as a cohesive element among the first professional physicists in the region; it is something less tangible than scientific interests but apparently of similar relevance when defining an academic community. This ethical aspect was connected not only to *scientific fraud* but to explicit positioning when confronting governments which – like Perón's – differed greatly with the science universities were attempting to develop.

Neither should we leave aside the difficulties arising in connection with the reception of logical positivism in Latin American universities in those years; nor the triumph of “spirituality”, as pointed out by Ardao, in the Uruguayan university of the beginning of the 20th century. In some ways, criticism of Papp is also a criticism of what was understood as “the worst South American tradition” of philosophy (Videira and Puig 2020, 236). This is why the dispute is lodged within a more general framework. Undoubtedly, Papp's vindication of metaphysics was seen as an element to be unconditionally attacked. And the members of the circle of empiricist physicists did so, both in public and in their personal correspondence.

Now, why was the dispute about the professorship of *Scientific Thought* so important? This paper offers some hypotheses in order to try and understand why this is so, based on available documents, together with hypotheses regarding the matter of the burgeoning growth in academic institutions of courses seeking to understand the past of scientific practice. We must not forget that the course itself was created because historians' training was sorely lacking concerning science. To that effect, physicists and philosophers who united against Papp's ethics, political action and philosophy, believed that these spaces for epistemological training, such as the chair of *Scientific Thought*, were of the utmost relevance for the fostering of science in highly professionalist universities, not oriented in epistemological terms towards *the new scientific philosophy*. It is not by chance that the interest in the history of science, especially in the post-war period, should have become a new concern for scientists, as here too, it seemed that the question of all science's legitimacy might be called to account. It was in the general context of the post-war years that science attained unprecedented social relevance, especially physics. In actual fact, Rey Pastor's position and concern over the attacks against Papp's work should be understood as those of a scientist worried about the course taken by the construction of narratives about the History of Science.⁴

Even in the incipient conditions available in the River Plate area, the importance of disputing the criteria upon which to define *how* and *in what way* to practice science was of crucial concern to scientists, historians, and philosophers. But there is a further aspect which

⁴ Julio Rey Pastor had by then published several books on the History of Science: *Ciencia abstracta y filosofía natural* (Abstract Science and Natural Philosophy) (1923); *La ciencia y la técnica en el descubrimiento de América* (Science and Technology in the Discovery of America) (1945); *Historia de la matemática* (History of Mathematics), with José Babini (1951).

motivated debates: who should safeguard the criteria. That is, who would establish the validating criteria of what science was, and consequently, what we should consider the word applies to today. In other words, the dispute was a battle for authority over science. This battle is not only fought in the analysis of the epistemological positions of the two opponents but also by taking into account this dimension in connection with several others, such as ethics and politics. *What is science, and who should be its spokesperson*, was part of the fight which for the physicists of the region – among others – had to be fought not only against political power but also within the very universities themselves.

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