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# Between Reception and Reflection: Notes for a Current Epistemological Evaluation around Whiggism and Presentism in Guillermo Boido's Historiographical Proposal

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## Abstract:
In this work, I propose some notes for a current epistemological evaluation around *Whiggism* and *presentism* in the historiographical proposal of Guillermo Boido (1941-2013). In the first place, I will locate the topic proposed in the shared framework from the "Colloquium of Historiography of Science in Latin America (Argentina – Brazil – Uruguay): Reception, Reflection and Production." Second, I will refer to some aspects of Boido's academic career and I will place him in what I identify as a "second stage" of the history of science in Argentina. Third, I will dwell on some of Boido's writings, particularly on those in which he addresses the questions of Whiggism and presentism. Fourth, I will recover some elements on the treatment of these issues in recent works carried out from the perspective of historical epistemology. Finally, in conclusion, I will propose a current epistemological evaluation of Whiggism and presentism between reception and reflection; an evaluation oriented to sustain a "critical" (Loison 2016) and "pluralist" (Chang 2021) presentism, in the face of the epistemological, ethical and political challenges of our current days.



**Keywords:** Historiography of Science; Guillermo Boido; Whiggism; Presentism; Historical Epistemology

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## Introduction

Mobilized by the call for the "Colóquio Historiografia da Ciência na América Latina (Argentina – Brasil – Uruguai): Recepção, Reflexão e Produção" / "Coloquio de Historiografía de la Ciencia en América Latina (Argentina – Brasil – Uruguay): Recepción, Reflexión y Producción",[2] I return to those referents that paved the way in the history of science from a

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[2]Organizers: Mauro Condé (UFMG) and Marlon Salomon (UFG). From October 21st to November 11th, 2021.

philosophical perspective in Argentina. One name clearly stands out: Guillermo Boido. Two historiographic issues of great importance and validity also addressed by him are highlighted: Whiggism and presentism. From the conviction that it is essential to revisit the legacies critically and reflectively in order to transform our practices, in this work, I will propose some notes for a current epistemological evaluation of the aforementioned issues, considering Boido's work.

First of all, I would like to place this work within the framework of the Colóquio/Coloquio that brought us together:

i) in a conception of the historiography of science. As Condé and Salomon (2021) state: "By establishing historicity within the history of science, the historiography of science produces understanding that lies between the history of science and the philosophy of science – with sociological and anthropological ramifications – (1). We face "an essentially transdisciplinary field" that provides us with "a *transversal* view" of scientific activity; a field which, in turn, has a history that is susceptible to epistemological judgment. I will meet this transdisciplinary field *from epistemology*.

ii) between the "reception" and "reflection" axes, as defined in the call for the Colóquio/Coloquio.[3] The alternation between these two terms will run throughout this work and become particularly evident in the conclusion.

## The Trajectory of Boido and his Place in the History of Science in Argentina

In this section, I highlight some aspects of the academic career of Guillermo Boido (1941-2013): Professor of Physics and Astronomy and Specialist in Science Education and History of Science. Between 1964 and 1966, at the Faculty of Exact and Natural Sciences (FCEN, for its acronym in Spanish) of the University of Buenos Aires (UBA), Boido was a Physics instructor in the innovative admission course directed by Eduardo Flichman.[4] Unfortunately, this course was violently interrupted, and its film records were destroyed after the "Night of the Long Batons"[5] on July 29th, 1966. However, it was resumed almost two decades later, after the return of democracy, in 1984. In this democratic period, Boido was Professor of History of Science at UBA and the National University of La Plata (UNLP). In addition, he taught courses and seminars in other Argentine and Latin American universities and institutions. Among his writings, we find texts on the history of science and books on physics and poetry. Also committed to scientific dissemination, he was a founding member and associate editor of the *Revista Ciencia Hoy*.[6] Likewise, he published numerous articles to disseminate epistemological issues in the "Epistemology" section of the magazine *EXACTAmente* from FCEN, UBA.

Boido would occupy a prominent place in the history of science in Argentina after *a first stage*, the one that developed from the 1930s to the mid-1970s, and whose main protagonists were Julio Rey Pastor (1888-1962), Aldo Mieli (1879-1950), José Babini (1897-



[3] See: Condé and Salomon, Call for the Colóquio/Coloquio.
[4] Eduardo Héctor Flichman (1932-2005), physicist and philosopher of science with whom Guillermo Boido shared projects, research, productions and a long-lasting friendship.
[5] The violent removal of professors and students from five schools from the University of Buenos Aires (UBA) who opposed the intervention of the military in the university.
[6] Founded in 1988, and still running nowadays, inspired by and associated with *Ciência Hoje* from Brazil.

1974) and Desiderio Papp (1895-1993),[7] whose perspective has been coined as "the peak of universalism" by Cueto and Silva (2020). I place Boido in what could be identified as *a second stage*, which begins after the return to democracy in 1983, and is characterized by the flourishing of a history of science *from a philosophical perspective*. In this regard, Lombardi, Cordero and Pérez Ransanz (2020) actually highlight that Boido has dynamically promoted the development of a philosophical history of science in our country.

In this second stage, it is worth mentioning at least some other references, productions, and training and research spaces: i) Alejandro Cassini and Marcelo Levinas, with their works on History of Physics at the beginning of the 20th century, and Christián Carman, with his works on Antique Astronomy (Lombardi, Cordero and Pérez Ransanz, 2020); ii) Alberto Guillermo Ranea, with his works on Galileo Galilei, Descartes, Leibniz, Newton and Darwin[8]; iii) Víctor Rodríguez and his work at the National University of Córdoba (UNC), which involved his courses on the History of Science, his impulse for the creation of the Logical-Epistemological Area of the School of Philosophy and the organization of the "Jornadas de Epistemología e Historia de la Ciencia" since 1989, and the publications that derived from it: the books *Epistemología e Historia de la Ciencia. Selección de Trabajos de las Jornadas,* and then the *Epistemología e Historia de la Ciencia* Journal,[9] as well as the continuity of these tasks and lines of research with Luis Salvatico and Hernán Severgnini;[10] iv) the "Asociación de Filosofía e Historia de la Ciencia del Cono Sur" (AFHIC), with its meetings since 1998 and its publications: *Asociación de Filosofía e Historia de la Ciencia del Cono Sur* (selection of works from the meetings) and *Volúmenes Temáticos;*[11] v) the "Centro de Estudios de Filosofía e Historia de la Ciencia" (CEFHIC, National University of – UNQ) since 2016, directed by Pablo Lorenzano, with the edition of the journal *Metatheoria. Revista de Filosofía e Historia de la Ciencia* (jointly with the Tres de Febrero National University – UNTREF), the collection of books *Filosofía y Ciencia* and the organization of scientific and academic events;[12] vi) the creation of postgraduate degrees, such as the Master and Doctorate in Epistemology and History of Science (UNTREF) directed by César Lorenzano and coordinated by Verónica Tozzi[13] and the Master in Philosophy, with an orientation to Philosophy and History of Science (UNQ), directed by Daniel Busdygan.[14]

It should be emphasized that Guillermo Boido has been connected in various ways with practically all of these people and spaces for the teaching, research, production and academic dissemination in the field of history of science articulated with a philosophy of science / epistemology, and in all of them, he has left his fruitful legacy.



[7]María Laura Martínez and Juan Queijo Olano (from UDELAR, Uruguay) referred to these authors in the Colóquio /Coloquio and in this special issue, 11 (December) 2021, of *Transversal* (Martínez 2021) (Olano 2021).
[8]See: https://www.utdt.edu/ver_contenido.php?id_contenido=12692&id_item_menu=22938. María Martini (UBA) brought up this author at the Colóquio/ Coloquio.
[9]See: Sobre la revista | Epistemología e Historia de la Ciencia – https://revistas.unc.edu.ar/index.php/afjor/about
[10]See: https://ffyh.unc.edu.ar/proyectos-de-investigacion/proyectos/areas/filosofia/
[11]See: http://www.afhic.com/es/
[12]See: CEFHIC | Centro de Estudios de Filosofía e Historia de la Ciencia – Universidad Nacional de Quilmes http://cefhic.web.unq.edu.ar
[13]See: UNTREF - http://www.untref.edu.ar/posgrado/doctorado-en-epistemologia-e-historia-de-la-ciencia
[14]See: Universidad Nacional de Quilmes - carreras - Maestría en Filosofía – http://www.unq.edu.ar/carreras/57-maestría-enfilosofía.php#q

## The Written Production of Boido. His Approach to Whiggism and Presentism

In this section, I will refer to some of Boido's writings, particularly those in which he addresses various aspects of the issues of Whiggismo and presentism. Then, I will introduce them chronologically and briefly comment on them.

a) First, I would like to dwell on Boido et al. ([1988] 1996), a book that contains the "Reading material for the distance course of Scientific Thinking, *Programa Prociencia*, CONICET". Boido was the Director of the History and Foundations of Science area of this Program, which had a high impact and wide dissemination throughout Argentina, especially influencing the teaching practices at the tertiary and university levels. In the Bibliography of this book, the authors can be observed, and the issues both on the history of science [modules 1, 2 and 5], [15] and on epistemology [modules 3 and 4],[16] which found their way to our country through Boido and Flichman, the main authors responsible for these receptions. The privileged theoretical lines, as well as the absent ones, can also be seen; in the aforementioned modules 3 and 4, for example, the bibliographic references are exclusively epistemological texts of the analytic style.

[15] "*MÓDULO 1*
Bernal, J. D., *Historia Social de la Ciencia,* Barcelona, Península, 1967.
Conant, J., *La comprensión de la ciencia,* Barcelona, Plaza & Janés, 1963.
Conant, J., *La ciencia y el sentido común,* Buenos Aires, Kraft, 1953.
Ducassé, P., *Historia de las técnicas,* Buenos Aires, Eudeba, 1985.
*MÓDULO 2*
Cohen, B., *El nacimiento de una nueva física,* Buenos Aires, Eudeba, 1961.
Crombie, A. C., *Historia de la ciencia. De San Agustín a Galileo,* Madrid, Alianza, 1984.
Geymonat, L., *El pensamiento científico,* Buenos Aires, Eudeba, 1961.
Kearney, H., *Orígenes de la ciencia moderna,* Madrid, Guadarrama, 1970.
Koestler, A., *Los sonámbulos,* Buenos Aires, Eudeba, 1963.
Kuhn, T., *La revolución copernicana,* Barcelona, Ariel, 1978.
Toulmin y Goodfield, *La trama de los cielos,* Buenos Aires, Eudeba, 1963.
*(…)*
*MÓDULO 5*
Bernal, J. *D., Historia social de la ciencia,* Barcelona, Península, 1967.
Ducassé P., *Historia de las técnicas,* Buenos Aires, Eudeba, 1985.
Farrington, B., *La civilización de Grecia y Roma,* Buenos Aires, Siglo XX, 1979.
Gordon Childe, V., *¿Qué sucedió en la historia?,* Buenos Aires, Siglo XX, 1960.
Lilley, Sam, *Hombres, máquinas e historia,* Buenos Aires, Galatea Nueva Visión, 1957.
Ribeiro Darcy, *El proceso civilizatorio: de la revolución agrícola a la termonuclear;* Buenos Aires, Ceal, 1973.
Von Martin, Alfred, *Sociología del Renacimiento,* México, Fondo de Cultura Económica, 1962". (Boido et al. [1988] 1996, 223).

[16] "*MÓDULO 3 Y MÓDULO 4*
Brown, H., *La nueva filosofía de la ciencia,* Madrid, Tecnos, 1983.
Bunge, M., *La investigación científica,* Barcelona, Ariel, 1969.
Carnap, R., *Fundamentación lógica de la física,* Madrid/Bs. As., Hyspamerica-Orbis, 1985.
Chalmers, A., *¿Qué es esa cosa llamada ciencia?,* Madrid, Siglo XXI, 1984.
Hempel, C., *Filosofía de la ciencia natural,* Madrid, Alianza, 1979.
Klimovsky, G., *Estructura y validez de las teorías científicas,* en Gaeta y Robles *Nociones de epistemología,* Buenos Aires, 1985.
Nagel, E., *La estructura de la ciencia,* Buenos Aires, Paidós, 1968". (*Ibidem*, 223)

b) Next, Boido seeks to "present the multiple images of Galileo and the scientific revolution of the 16th and 17th centuries that historians of science have built today" (Boido 1996, 13). At the end of each chapter, there is a section of historiographical debates entitled: "The historians discuss". The first one is precisely called: "The temptations of the whig historiography" (41-42). Here, Boido recalls that Butterfield ([1931] 1951) takes the term "Whig" from 19th century historians of English constitutional history to refer to the historiographic approach characterized as "the ahistorical writing of history". This kind of writing, which in history of science seeks to highlight the trajectory towards the current science and whose original sin is an anachronism, is based on a

> *strong* presupposition: that science has, at least in latent form, an existence in every historical time, and those achievements and failures must be estimated in relation to it. The application of this criterion will expel from the history of science, for example, theories that turned out to be erroneous in the light of a later science (…). The historian will also discard, considering the factors under study, factors that nowadays we consider non-scientific or irrational. (Boido 1996, 41)

This is opposed by another diachronic and contextualist approach, but Boido stresses that "a strict diachronic approach is utopian. No one escapes from (…) the 'glasses of the present' that allow them to access a historical view" (Boido 1996, 42). This is related to avoiding excesses, both from the synchronic *Whig* approach as well as the contextualist diachronic approach, and to cultivating non-exclusive perspectives: "As the Danish historian Helge Kragh states, the historian of science must have a two-faced Janus head capable of respecting the advantages and recognizing the limitations of both approaches" (Boido 1996, 42).



c) From Boido and Flichman, I recover this quote:

> In the fields of history and philosophy of science, the problem of different elucidations for certain fundamental expressions is often discussed, when they are applied to different times or even to the same time (…). However, our main intention is not semantic-pragmatic but epistemological and ontological (…). We will not care if the term "mechanics" (or its equivalent in the regional language and time or trend considered) existed or not, or if it was used in the same or in a different way. What will be of our interest is to analyze what mechanical theories, with our elucidation of "mechanics", were developed in the history and geography of the western scientific-philosophical world that we will try to cover. (Boido and Flichman 1996, 48-49)

I consider that Boido and Flichman admit at least two forms of presentism here. In this regard, and advancing some distinctions proposed by Loison (2016), a "*descriptive* presentism" may be observed in this quote in relation to the term "mechanics", and even an "*empirical* presentism" linked with the "ontological intention" of the authors.

d) In 1998, Boido turns to Alexandre Koyré[17] to strengthen his criticism of the historians who err on the side of anachronism, particularly in the case study of Blaise Pascal:

[17] From what Marlon Salomon pointed out in the aforementioned Colóquio/Coloquio regarding different pronunciations of the Koyré surname linked to various receptions by this author, I note that Boido always pronounced it: "Koi-ré" (Salomon 2021). On the other hand, it should be noted that Boido placed Koyré on the side of the "internalist" historians of science.

> Alexander Koyré said that when the study of a thought that is not our own is approached, grasping what that thinker knew or believed to know is as important as forgetting what we know or what we believe we know today.[18] Many past scientists have been victims of the anachronism that Koyré repudiates and, for example, Blaise Pascal. Addressing Pascal's thought becomes particularly intricate because such anachronism has been practiced with the complicity and agreement of historians of science, philosophy and literature, who, at least until recent times, have fragmented it and deposited the fragments in watertight disciplinary compartments. (Boido 1998, 47)

e) In 1999, Boido advances on positivist and anachronistic historiographies; this time, on those that presuppose the permanence of an identical "experimental method" throughout history. Boido once again leans on Koyré:

> Figures as dissimilar as Gilbert, Bacon, Harvey, Kepler or Galileo in the history of the scientific revolution have warned us about the value of experience as an antidote to speculative thought. However, Alexander Koyré reminds us that "the empiricism of modern science is based not on experience but experimentation" and that this is "a teleological process whose end is determined by theory".[19] Hence, regarding the experimentalism of Renaissance science and the science of the 17th century, we should first discriminate between those theories oriented by mechanistic thought and others that are part of traditions from Aristotelian or Hermetic roots. With different nuances, and as victims of positivist and anachronistic historiography, Gilbert, Galileo and Bacon have traditionally been characterized as the precursors or founders of modern science, in particular, for having practiced or highlighted the merits of an alleged "experimental method". Thus, for example, the historian William Dampier considered that Galileo "combined Gilbert's experimental and inductive methods with mathematical deduction, with which he discovered and established the true procedure of physical science".[20] This point of view is historically and epistemologically inadmissible today. (…) The belonging of Gilbert and Galileo to opposing paradigms or scientific traditions, present at the time, supposes dissimilar assumptions about nature and the ways to obtain knowledge, and, particularly, different ways to conceive experimentation. (Boido 1999, 78)



f) In Boido and Lantz, the authors conclude their article on natural philosophy and theology in Newton by highlighting the historicity of the categories "science", "rationality of historical agents" and "reason":

> As Newton's case shows, we must be cautious when talking about *science* in the past. It is not about a ripe fruit (science never is), but about attempts to tackle problems, whose nature, scopes and formulation change over time, with criteria, arguments, dispositions, philosophies, interests, techniques, in short, with an arsenal of resources that, for the most part, were expelled from the science of the moment by a subsequent science. We speak of coherence and rationality of historical agents; but what do these terms mean, which for certain philosophers of science have an absolute and ahistorical

[18]Boido quotes: Koyré, Alexandre. (1955) 1981. *Místicos, espirituales y alquimistas*, Madrid: Akal, 71.
[19]Boido quotes: Koyré, Alexandre. 1953. "An experiment in measurement". *Proceedings of the American Philosophical Society*, vol. 97, n° 2.
[20]Boido quotes: Dampier, William C. (1929) 1972. *Historia de la ciencia y sus relaciones con la filosofía y la religión*. Madrid: Tecnos, 157.

> value? (…) Perhaps rationality is not a perennial category of the spirit or an eternal datum of human history, (…) but rather a historical conquest. (Boido and Lantz 2002 72)

g) In 2006, Boido and Kastika indicate that they have developed a historiographical category to refer to certain ideas and practices of a past, but that "it would be anachronistic" to refer to current ideas and practices with this category:

> In order to avoid misunderstandings, we must point out that our 'science of music' is a historiographical category of analysis elaborated from the consideration of ideas, studies and practices of various kinds t*hat were valid in the historical period considered*. For our purposes, it would be anachronistic to use such an expression in relation (…) to science and music *as we understand them nowadays*. (Boido and Kastika 2006, 66)

The anachronism that we seek to avoid here may be related to one of the two definitions of this term indicated by Chang: the "intrusion of the (…) past into the present" (Chang 2021, 99).

h) Finally, in Boido and Flichman, the latest synthesis of long years of research, expositions and shared writings on Whiggism and presentism may be found. In Appendix I of this book, the authors present four positions about the elaboration of historiographical categories (two of which are presentist, and two of which are not) and they pronounce on each of them:

1- Anachronic or *Whig*, presentist and anti-relativist. The historiographical categories have been elaborated by "understanding and judging the past in terms of our current knowledge and values" (Boido and Flichman 2010, 91). The reading of the historical sources requires a translation in a language of the present. About this position, Boido and Flichman express the following: "if we intend to achieve – at least in part – the understanding of the past *on its own terms*, we must renounce it" (Boido and Flichman 2010, 91).



2- *À la* Pierre Menard, presentist and relativist. The interpretation of historical sources is subject to those who read them from a particular present. Boido and Flichman refer to this position in this way because of its similarity to a literary writing and reading technique proposed by Jorge Luis Borges, but they consider that

> history cannot be identified with literature. We explicitly reject this position, since this would lead us to consider that episodes such as the disappearance of thousands of people during the last military dictatorship in Argentina, or the Nazi Holocaust, are but a possible interpretation of oral and written documents about historical events, and, as a consequence, of the historical facts themselves. (Boido and Flichman 2010, 92-93)

3- Synchronic or *antiwhig*, not presentist and relativist. It is necessary to take into account only the knowledge and values of the period under study, and at the same time, not to translate what is found in the historical sources into a contemporary language. Boido and Flichman do not agree with this position because it leads to a "mere antiquarianism". By attempting to go into the past as if they were a time traveler, the historian "*ceases to be a historian*. There is no historian without historiography and all historiography is elaborated from the present of the historian!" (Boido and Flichman 2010, 92).

4- *Anti-antiwhig*, "non-presentist" and anti-relativist, in which the authors are decidedly positioned. From this position, which is intermediate between *whig* and *antiwhig*, it is possible

> to recover the past, entering it, but without abandoning our current knowledge and values, provided with concepts that perhaps were not perfectly visualized in a specific historical agent, but which, because of our current concepts, we can discover their seeds in their documents or testimonies. (Boido and Flichman 2010, 93)

## Beyond Boido.
## Presentism and Whiggism in Historical Epistemology Works

In this section, I will recover some elements on the treatment of presentism and Whiggism in recent works carried out from the perspective of historical epistemology. If I choose this perspective, it is because I agree with what Loison affirms:

> historical epistemology is best characterized as a way not only to raise the problem of presentism in the history of science but to *solve* it. I argue that historical epistemology accounts for both the historicity and the rationality of science and thereby escapes the dead ends of Whiggism and positivism on the one hand and relativism on the other. (Loison 2016, 30)

When reviewing state of the art, confirms a resurgence of presentism in the history of science from the 1980s onwards, to a point such that "[t]he question is therefore no longer *if* we have to make room for presentism, but rather *how* we should use presentism" (Loison 2016, 29). Regarding such uses, Loison distinguishes four forms of presentism in the history of science and three misuses of the very same ones that give rise to bad practices in this disciplinary field.



1- *Empirical* presentism: current scientific knowledge serves to understand better the empirical substratum that served as the basis for the explanations of scientists of the past.

2- *Descriptive* presentism: "*the comparison / transcription / translation of the structure of a past explanation in terms that are understandable in the present*" (Loison 2016, 31). This form of presentism may have an improper use: *anachronism*, which consists of not differentiating between i) the categories, concepts, terms, descriptions of the past *of the actors*, and ii) the categories, concepts, terms and analytical and scientific descriptions of the past *of the historians*.

3- *Causal-narrative* presentism: "*the use of events that occurred after the period considered to identify causal historical processes and to give perspective to the narrative produced*" (31). A misuse of this form of presentism is *Whiggism*, which in a first sense refers to the idea that the historical development of science is linearly and finalistically directed towards the truth of the current science.

4- *Normative* presentism: "*the use of present-day concepts and explanations to identify and emphasize the obstacles faced by earlier concepts in order to understand the same class of phenomena as well as their intrinsic limitations and theoretical shortcomings*" (Loison 2016, 32). A misuse of this form of presentism is *Whiggism*, which in a second sense refers to the

idea that current science is "the truth" and that, therefore, it must be the absolute standard to judge past science – which is still incomplete and immature.

Finally, Loison proposes a *critical* presentism, which he finds at the core of the project of the historical epistemology, and above all, in Canguilhem's work. Thanks to this new and overcoming form of presentism, a relationship of mutual criticism between present and past can be established in such a way that current science can be used as a standard (although not as an absolute one) to judge the past and, in turn, the past can be used to criticize current science, and even to promote new theoretical developments and to transform the present.

I also recover some ideas from Almeida, who, in a recent dialogue with Calazans[21], emphasized the difference between *the present of science* and *the present of the history of science*. I believe that this issue can be linked to the difference between the *object of a science* and the *object of the history of sciences* in Canguilhem (1968) and the differences between Bachelard and Canguilhem in relation to their concerns about the present and about the current affairs. Regarding the latter, Almeida points out:

> although Canguilhem admits that he intends to carry out, in Biology, a "recurrent history", according to the Bachelardian definition, that is, a history that can be clarified according to the purpose of the present, there are considerable differences between his analyzes. (...) Differently from Bachelard, the concern for the current affairs, in Canguilhem, will not start from the current content of a specific theory or scientific concept but from its *effect* on the formation of a scientific culture that is still alive. (Almeida 2018, 101-102)

Finally, I draw some ideas from Chang which are of interest to our topic. i) Chang proposes distinguishing "In one sense, presentism is simply inevitable, as the historian has no choice but to be in the present"; ii) *Whiggism*, "a particular form of presentism that is based on the notion that the present is better than the past, and that the past constitutes a progressive lead-up to the present" (Chang 2009, 252) and finally, iii) *triumphalism*, which should not be confused with Whiggism. Rather, it is a winner's history, which implies a "selection in the choice of events and people to celebrate" (Chang 2009, 252) and which can lead to a "distortion of facts" (Chang 2009, 253). In particular, the lack of discrimination between Whiggism and triumphalism has caused serious misunderstandings in historiographies that criticize the excesses of the traditional historiography of science and has led to the abstention of any judgment of epistemic values. Facing this situation, Chang proposes a *historiographical pluralism* and an *independent judgmentalism* in the history of science.

Chang proposes a "Presentist History for Pluralist Science". Presentism in historiography is not only inevitable, but it can also be *activist*, that is, a presentism that selectively and increasingly consciously uses the present "in order to do better history to meet our historiographical purposes" (Chang 2021, 100). From the different kinds of presentism one could choose from, Chang advocates a "philosophical history" of science – especially an *epistemological* history – as well as an active "emancipatory presentism" and a "pluralist presentism." The latter, linked to a scientific pluralism, should promote writings of history that recover fertile alternatives from the past that have been and are discarded by mainstream views, guided by a judgment issued from *the historian's present*: "what is

[21]See: Conferência de Veronica Calazans (UTFPR): "História e Filosofias da Ciência e da Tecnologia" - YouTube, second conference of the cycle "História e Historiografia das Ciências", organized by GT História da Ciência e Tecnologia da ANPUH-GO, with the support of PPGH-UFG and FH-UFG, 7th October, 2021. https://www.youtube.com/watch?v=b6IfbHRy9mE

operative here is *my* present, not the present of the orthodox professional scientists" (Chang 2021, 107). Chang relates this pluralist historiography with his proposal for a "complementary science", which invites us to cultivate history of science *and* philosophy of science to improve the *present* scientific knowledge in multiple and novel ways.

## As a Conclusion: Notes for a Current Epistemological Evaluation

The path I have completed allows me to outline some notes for a current epistemological evaluation.

Regarding the "reception" axis, from our present, I highly value the authors and the historiographical issues of science that have come to us through the teaching and the writings of Boido, as well as the legacy that Boido left in practically all the people and teaching, research, academic dissemination and communication spaces for a history of science with a philosophical perspective that emerged in the early 1980s, and that are still in force in Argentina.

Regarding the "reflection" axis, from our present, I value i) what Boido was able to reflect upon and elaborate, particularly around the topics of Whiggism and presentism, as well as ii) what we can reflect upon today around these central topics in the historiography of science, based on contributions from historical epistemology.

As for i), in a general way, it could be said that Boido was able to think about these topics within the framework of the dispute "Whiggism vs. historicism" (or "Whiggism vs. contextualism") as it developed in Anglo-Saxon countries, but not within the framework of what was developed in this regard in the French sphere (Braunstein 2008). In this sense, the authors most frequently referred to by Boido are Butterfield, Kragh and Koyré -even when the latter "does not pronounce the term Whiggism, he is led to reject this idea when he insists that the past be interpreted on its own terms" (Braunstein 2008, 99).



Furthermore, in this context of Anglo-Saxon debates, the term "presentism" in Boido is understood as an interpretation and assessment of the past from the present that must be *completely* rejected. In his view, the presentist elaboration of historiographical categories can only be either anti-relativist (anachronistic or *Whig*) or relativist (*à la* Pierre Menard), but for various reasons, both positions are unacceptable to him, all of which leads him to place himself in a position that he understands and identifies as "non-presentist."

On the other hand, I do not find in Boido any reference to this dispute in the French sphere. In this regard, Braunstein points out that in the French-style history of sciences, "the terms of the debate oppose 'presentism' to the 'purely historical' history of science. But the judgment on these two positions is reversed in relation to the Anglo-Saxon situation" (Braunstein 2008, 100). In this French context, Bachelard and Canguilhem address the issues of presentism and "recurrent history", but none of this is found in Boido.

Regarding ii), I am driven to affirm that even though Boido defined his position as "non-presentist", it can be related to some of the forms of presentism indicated by Loison (2016): with an *empirical* presentism, with a *descriptive* presentism that does not fall into anachronism, with a *causal-narrative* presentism that does not fall into Whiggism/positivism and with a *normative* presentism that does not fall into Whiggism. But Boido did not have the epistemological perspective nor did he have enough references to articulate a *critical* presentism. Furthermore, it is clear that Boido accepted "the inevitability of presentism" highlighted by Chang (2009 and 2021), but that he placed himself in a position that he called "non-presentist" because he did not sufficiently distinguish between "presentism", "Whiggism" and "triumphalism" (Chang 2009).

Finally, based on the path followed so far, I propose to think about presentism and Whiggism today from the historical epistemology, as a historiographical perspective that allows us "to reveal history in science" (Canguilhem 1952, 54), to account for both the contingency and the rationality of science and sustain a "critical" (Loison 2016) and "pluralist" (Chang 2021) presentism, to meet the epistemological, ethical and political challenges of our present.-

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[22] Except for citations of original texts in English, the remaining are my own translation.

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