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THE LOGICAL AND PEDAGOGICAL PATHS OF PHENOMENOLOGY.
ADALBERTO GARCÍA DE MENDOZA'S AND FRANCISCO LARROYO'S
FORAYS*

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This paper addresses the relationship between logic and phenomenology at a historical moment that precedes the big divide between analytic philosophy and phenomenology. In analysing alternative derivations of phenomenological logic, the discussion focuses on the case of two notorious neo-Kantian Mexican philosophers from the first half of the XXth century: Adalberto García de Mendoza and Francisco Larroyo. It is argued that both García de Mendoza and Larroyo made an original contribution to the discussion on the relationship between phenomenology and logic. Further, this paper attempts to present a charitable portrait of both García de Mendoza and Larroyo in contrast to underrating approaches to both Mexican philosophers. In so doing, this paper adopts a historical—thought not strictly biographical— perspective. While it is true that neither García de Mendoza nor Larroyo could be considered “phenomenologists” or “Husserl scholars” according to contemporary standards it is worth noticing that they engage in the discussion of phenomenological logic. Both authors had the project of developing a grounding logic for science and, as the article argues, both attempts could be even linked. Their project, however, was unfinished. The plan of this paper is as follows. The first section addresses the problem of the relationship between logic and phenomenology. The second one focuses on García

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de Mendoza's contributions. The third one elaborates on Larroyo's *Logic of Sciences*. And, finally, the fourth section elaborates on these Mexican philosophers' contributions to education, making as well further observations concerning the similarities and differences between both authors.

Keywords: Adalberto García de Mendoza, Francisco Larroyo, phenomenological logic, pedagogical phenomenology, Mexican phenomenology, contribution to education.

ЛОГИЧЕСКИЙ И ПЕДАГОГИЧЕСКИЙ ПУТИ ФЕНОМЕНОЛОГИИ. АДАЛЬБЕРТО ГАРСИА ДЕ МЕНДОСА, ФРАНЦИСКО ЛАРРОЙО И ИХ ТРАЕКТОРИИ*

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В статье рассматриваются взаимосвязи между логикой и феноменологией до разрыва между аналитической философией и феноменологией. При разборе альтернативных вариантов феноменологической логики рассматриваются концепции двух известных мексиканских философов-неокантианцев первой половины XX века: Адальберто Гарсиа де Мендосы и Франсиско Ларройо. Оба мыслителя внесли оригинальный вклад в дискуссию о взаимосвязи феноменологии и логики; и оба мексиканских философа были отчасти недооценены — данная статья восполняет этот пробел. При этом статья принимает историческую (хотя и не строго биографическую) перспективу. Хотя ни Гарсиа де Мендоса, ни Ларройо по современным стандартам не могут считаться «феноменологами» или «гуссерлеведами», стоит отметить, что они участвуют в обсуждении феноменологической логики. У обоих авторов был проект разработки науки, обосновывающей логику, и, как утверждается в статье, обе попытки могли быть даже связаны между собой. Однако их проекты так и не были завершены. В первом разделе статьи рассматривается проблема соотношения логики и феноменологии. Второй раздел посвящен вкладу Гарсиа де Мендосы в изучение этой темы. Третий раздел развивает «Логику наук» Ларройо. И, наконец, в четвертом разделе подробно описывается вклад этих мексиканских философов в преподавание философии, а также делаются выводы о сходствах и различиях описанных концепций.

Ключевые слова: Адальберто Гарсиа де Мендоса, Франсиско Ларройо, феноменологическая логика, педагогическая феноменология, мексиканская феноменология, преподавание философии.

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Las ciencias del lenguaje conquistaron su autonomía apenas cesó la creencia en la identidad entre el objeto y su signo. La primera tarea del pensamiento consistió en fijar un significado preciso y único a los vocablos; y la gramática se convirtió en el primer peldaño de la lógica. Mas las palabras son rebeldes a la definición. Y todavía no cesa la batalla entre la ciencia y el lenguaje¹.

Octavio Paz, *El arco y la lira*

1. INTRODUCTION

Despite its importance in the inaugural moment of phenomenology, phenomenological logic or logical phenomenology are not among the most cultivated fields for phenomenological research². This may partly be due to the fact that a contemporary view of logic and what logic does would probably consider its formal apparatus as its general outlook if not as one of its main features. However, this view is historically-conditioned. A historian of philosophy could point out that Husserl's *Logische Untersuchungen* were written at a moment where one of the big divides in philosophy was yet to be formed, namely, that between continental and analytic philosophy. This work was written only three years prior to Russell's *Principles of Mathematics*, which in contrast to Husserl's *Logische Untersuchungen*, has a strict formal presentation. Ever since, analytic philosophy has been the dominant approach to logics. When not coming from the sphere of mathematics, one could even claim that logicians with a philosophical background are mostly analytic philosophers.

¹ “The science of language conquered its autonomy as soon as the belief in the identity between object and sign came to an end. The first task of thought was to attach a precise and unique meaning to words; grammar then became the first step towards logic. However, words rebel against definitions, and the battle between science and language has not ended yet.” (My translation. — *J. L. M-M.*)

² There are, of course, exceptions to this situation. Richard Tieszen (2005), for example, contrasts the Husserlian phenomenology (distinguishing its evolving path) with Kurt Gödel's models. The result is a sophisticated formal analysis. With a similar aim, but with a different focus and results, James Kinkaid (2020) delves further on the idea of “pure logic” and the idea of it being the study of all possible theories. Further, J. J. Da Silva (1997) examines Hermann Weyl agreements and disagreements with Husserl's ideas on the *continuum*—a concern that was also present in Brentano's philosophy—. An important antecedent is that of Oskar Becker (1923; 1927), whose concerns range from the status of geometry in phenomenology to that between the intertwining relationship between logics and mathematics.

In this regard, Tieszen (2005) and Roger Schmit (1981) can surely be considered as the most authoritative and reliable sources while dealing with the logical and mathematical project in Husserl's phenomenology.

The problem of phenomenological logic is certainly of great interest to both phenomenologists and analytic philosophers. Yet delving further into that topic is beyond the scope of this essay. Instead, I deal with the matter of logic from a phenomenological perspective, because it is this approach that interested the two Mexican philosophers whose work I will introduce below: Adalberto Garcia de Mendoza (1900–1963) and Francisco Larroyo (1908–1981).

The life and works of both Garcia de Mendoza and Larroyo can be seen as a constant exploration within the realms of logic, phenomenology and, curiously enough, neo-Kantianism. The matter of who is to be considered the “father of Mexican Neo-Kantianism,” Garcia de Mendoza or Larroyo, is still under dispute. Further, Garcia de Mendoza has also been considered the pioneer of phenomenology in Mexico (Escalante, 2016; Ziri6n, 2004).

As I argue below, both Garc3a de Mendoza and Larroyo had interesting and novel ideas pertaining to logical phenomenology as a basic ground for science, though, as it will be discussed below, the phenomenological character of their logical proposal could be contested. I also underline the importance of their focus on education, which, one could argue, amounts to a “pedagogical phenomenology.”

The plan for this paper is as follows: I first focus on the case of Garcia de Mendoza. As I will argue, Garcia de Mendoza revolves around the scientific program *à la* Husserl though without developing his own apparatus of logic. Secondly, I hold that there is a continuation of Garcia de Mendoza’s undeveloped plans for a logical-phenomenological program in Larroyo’s *Logic of Sciences*. Finally, I underline the importance of “pedagogical phenomenology” from both of our authors’ perspective.

2. ADALBERTO GARC3A DE MENDOZA’S PURE LOGIC OF SIGNIFICATION

Adalberto Garc3a de Mendoza y Hern3andez was born in March 27, 1900, in Pachuca, and died in 1963, in Mexico City. A polymath with multiple intellectual and artistic interests, he travelled to Germany at the age of nineteen. In Germany, he studied musical composition in Leipzig University and also attended several courses in Baden, Tübingen, and Stuttgart. The scant and not always comprehensive biographical reports³ we have about Garc3a de Mendoza indicate that he studied with some of the most notable neo-Kantians, such as Ernst Cassirer, Paul Natorp, Heinrich Rickert,

³ For this section, I rely on the accounts by Hern3andez Luna (1948), Cort3es Rodr3iguez (Garc3a de Mendoza, 2004), Escalante (2016), Granja Castro (1999), Ziri6n (2004), and the sparse notes in some Garc3a de Mendoza’s manuscripts (Garc3a de Mendoza, 2013a; 2013b; 2013c).

and Wilhelm Windelband, as well as Nikolai Hartmann, Max Scheler, Martin Heidegger, and Edmund Husserl himself. Here I expose a detailed outline of his work, not only to better apprehend his contributions to Mexican philosophy, but also to offer an alternative and more charitable approach to his philosophical and pedagogical project than what his critics have led us to assume.

While inspecting García de Mendoza's biographical account, Antonio Ziri6n, in his *Historia de la fenomenologfa en M6xico*⁴ (Ziri6n, 2004, 33), expresses doubts or even utter disbelief that Garcfa had studied with Husserl (and Scheler or Heidegger for that matter), since none of them taught at the universities where Garcfa de Mendoza attended, and, further, because he does not appear in the chronicles of Husserl's courses. Yet, it is not impossible to consider that Garcfa de Mendoza could have attended a lecture in Freiburg for example, and several more motives can be given as to why he was not on the chronicles of Husserl's seminars.

In any case, by the time he returned to Mexico, circa 1926, Garcfa de Mendoza had already been directly exposed to the new trends in German philosophy, especially neo-Kantianism and phenomenology. In Mexico, he taught at the Faculty of Philosophy of the National Autonomous University of Mexico (hereafter UNAM)⁵, and the National Preparatory High School ("Escuela Nacional Preparatoria", hereafter ENP)⁶ from 1927 to 1935. According to Escalante (2016), Garcfa de Mendoza leaves the University in the midst of a controversy. It was already the times of L6zaro C6rdenas's presidency (1934–1940), and an educational reform of socialist inclination was in the works. Within the University, opposition to Cardenas's policies became the main political trend, but Garcfa de Mendoza did not adhere to it.

In this context, and given his training in musical composition, Garcfa de Mendoza became the director of the National Conservatory of Music⁷. Garcfa de Mendoza was later granted with a prize from the Kokusai Bunka Shintokai Society from Japan for an essay on Japanese philosophy and was later an envoy to that country in 1945, where he gave several lectures. Garcfa de Mendoza's relationship with Japan's Imperial

⁴ "History of phenomenology in Mexico."

⁵ Prior to 1929, it was the National University of Mexico (Universidad Nacional de M6xico).

⁶ The National Preparatory High School (*Escuela Nacional Preparatoria*) was opened in 1868, being the oldest High School system in Mexico and one of the University of Mexico's flagship institutions. During the first half of the twentieth century and probably until the 60s, many notorious personalities taught in ENP (not only Garcfa de Mendoza, but also Larroyo, De Gortari and so on), as well as it was the principal formation institute for several other high-profile alumni in Mexico.

⁷ As a token of interest, during his tenure, Manuel M. Ponce and Silvestre Revueltas, who were already consolidated composers with international recognition, got their diploma in musical composition almost *honoris causa* in 1940 (Gonz6lez Qui6ones, 2002).

University (now University of Tokyo) was of great significance in academic diplomacy (cf. Uscanga Prieto, 2011).

García de Mendoza then returned to the University of Mexico in 1940 to the ENP, and in 1949 to the Faculty of Philosophy. Throughout his life, García de Mendoza was a devoted polymath, writing on several issues ranging from phenomenology, music and musicology, philosophy of Japan, aesthetics, epistemology, dialectics, Albert Einstein's theory of relativity⁸, and so on.

Many of his works have been republished in the last twenty years, yet under rather contrasting conditions. First, we have the diligent work of the editorial house Jitanjáfora, and his main editor José Mendoza Lara. In Jitanjáfora, García de Mendoza's 1933 *Lectures* were published in the Phenomenology Series (*Serie de Fenomenología*), coordinated by Zirión. Likewise, his experiences in Japan have resulted in two volumes *Visiones de Oriente (Visions from the East)* (2007) and *Conferencias de Japón (The Japan Seminars)* (2009) also published by Jitanjáfora. On the other hand, many of his works have been published by Palibrio, a Bloomington branch for books in Spanish. Palibrio, however, is what many would consider a "predatory publisher," where there is little to no review or editorial work, and where reportedly the volume's financing depends greatly on the author himself or, in this case, the holder of the copyright. Typography errors (some of which are crass) and inconsistencies abound in Palibrio's editions. These publications do a disservice to García de Mendoza's erudite career. However, Palibrio's editions do have a virtue: in many cases, their volumes are raw material that includes not only García de Mendoza's manuscripts, but works by his students, and a vast photographic archive. In other words, what these publications lack in editorial work, is compensated by their value as an archive for historians of Mexican philosophy.

For my assessment of his contributions, I mostly rely on his *Filosofía Moderna: Husserl–Scheler–Heidegger, Conferencias de 1933* (henceforth the *1933 Lectures*), and his 1932 *Lógica* (in two volumes) (García de Mendoza, 1932a; 1932b). I also use his more recently republished manuscripts by Palibrio (García de Mendoza, 2013a; 2013b; 2013c). Some of Palibrio's books in this regard coincide to a great extent with the *Lógica*, especially the *Manual de lógica. Primer cuaderno. 1930* (García de Mendoza, 2013a).

Undoubtedly, his 1932 *Lógica* is his *opus magnum*. García de Mendoza's *Lógica* was part of a seemingly ambitious plan that was meant to be published in three volumes. Of these, only two volumes were printed. Each volume is thought of as a

⁸ Einstein's theory constituted the doctoral dissertation topic of García de Mendoza (1936).

handbook for high school students. The title of the work is *Lógica. Obra de texto en la Escuela Nacional Preparatoria de México* (“Logic. A Handbook for the National Preparatory High School”). Unlike other logic handbooks (like Copi’s *Introduction to Logic* (1962) or Eli de Gortari’s *Iniciación a la lógica* (1969)), García de Mendoza’s didactic or instructive element comes in the sense that each chapter has its correspondent “suggested readings” section, a “Theses” (*Tesis*) section which consists of topics for discussing in the classroom, exercises, and short assignments.

García de Mendoza’s *Lógica* was aimed at inciting a reform within the public education system. Assessing the fulfilment of this goal, however, is rather a matter for historians and sociologists of education. In Ziri3n’s (2004) opinion, the goal was not achieved. A lapidary quote from Ziri3n suffices to show the reception of García de Mendoza’s contributions, especially his *Lógica*, among contemporary Mexican philosophers:

En la obra de García de Mendoza, pero principalmente en su *Lógica*, tenemos plasmado, en suma, el enjundioso empeño juvenil de un profesor excesivamente ambicioso que, habiendo adquirido un conocimiento de primera mano de algunas de las obras y personalidades más importantes de la filosofía alemana contemporánea, y con un impresionante bajaje de lecturas mal digeridas, quiso revolucionar con la fenomenología los estudios lógicos y filosóficos en México. Le sobró ambición y le sobró premura. Le faltó madurez, paciencia y muchísimo trabajo de asimilación. (Ziri3n, 2004, 43)⁹

Against this detrimental portrait, I engage with a more detailed account of García de Mendoza’s *Lógica*, drawing on Larroyo’s strategy. Chiefly, I argue, García de Mendoza’s main resources are category distinctions, classifications, summaries, and the design of a greater project that, to my knowledge, was not further developed by himself.

Unlike Ziri3n, who claims that García de Mendoza’s *Lógica* is a disorganized work, I sustain that the book outlines a rather clear program. The first volume (García de Mendoza, 1932a) is dedicated to a general introduction to logic and to the problem of significations¹⁰. It was probably the first time that a philosophy book written by a Mexican author addressed the then most novel ideas in German philosophy, ranging

⁹ “In García de Mendoza’s works, but especially in his *Logic*, we encounter a sum of a vast juvenile effort from an excessively ambitious professor who, having acquired a first-hand knowledge from some of the most important contemporary figures in German philosophy, with an impressive amount of poorly assimilated readings, wanted to revolutionize logical and philosophical studies in Mexico with the help of phenomenology. He was excessively ambitious and hasty, lacking maturity, patience and a great deal of comprehension.” (My translation. — *J. L. M-M.*).

¹⁰ “Significaciones” is the Spanish term used by García de Mendoza (and José Gaos as well) in connection to Husserl’s *Bedeutungen* (cf. Husserl, 2009, § 47).

from Husserl to Pfänder, Scheler, and others. There are also mentions of Russell and Frege, but these are rather marginal. In the then-emerging divide between continental and analytic philosophy, García de Mendoza focuses on the former. The introductory part has seven chapters mostly dedicated to his vision on logic: “Philosophy and the Theory of Science” (chapter 1), “The Problem of Knowledge” (chapter 2), “Logic and Psychology” (chapter 3), “Problems and the Main Directions of Logic” (chapter 4), “Problems and Main Directions of Epistemology” (chapter 5), “Problems and Main Directions of Phenomenology” (chapter 6), “Science, Logic, and Epistemology” (chapter 7), and “The Transit from Science to Truth. Examples from Metageometry and Relativity Theory” (chapter 8). The second part of the first book, “The Logic of Thought” is the one dedicated to the study of “significations,” and is not divided in chapters (though it has a lone chapter at the beginning, “Theory of Possibilities”), but principally in “titles.” Curiously enough, this part is a schematic summary of Husserl’s *Logische Untersuchungen*, where García de Mendoza comments on each chapter, each investigation, and even relevant paragraphs. After dealing with the sixth investigation, García de Mendoza divides the exposition into conceptual sections, where diverse works from diverse authors are cited.

The second volume (García de Mendoza, 1932b) focuses on the problem of essences, judgement, and concept. His “theory of essences” recollects some phenomenological notions, such as the eidetic world, the pure consciousness, and the pure ego. The review on essences and categories goes back to Aristotle and Kant in order to be then contrasted with Scheler’s ideas. Zirión’s (2004) account on García de Mendoza’s *Lógica* is principally focused on the first volume, casting the second volume aside as more disorganized and variegated than the first volume. The truth is that the second volume goes back to many points already settled in the first one, and that the project is not further developed.

This and other works by García de Mendoza should be understood within the framework of an ambitious proposal that conceives two kinds of science. Along his works on phenomenology, not only his *Lógica* but in the *1933 Lectures* as well, García de Mendoza insists in a divide on science between fact-based or factual sciences (“ciencias fácticas”) and essence-based or eidetic sciences (“ciencias eidéticas”). The distinction serves the purpose, among other things, of criticising the empirical grounding of logic via psychology. As the fact-based sciences address matters of facts, including those pertaining to psychology, the eidetic sciences address suprasensible matters, such as pure logic and values.

The turning point for García de Mendoza is Husserl’s coining of pure logic (“La *Lógica Pura*” as often capitalised by our author). This “discovery” allows exploring

other realms of eidetic reality. In the sixth lecture of his 1933 *Seminars* (“*Investigaciones de la lógica y epistemología tradicionales*”/ “Traditional Investigations in Logic and Epistemology”), García de Mendoza defines the key tasks of pure logic as follows: to define the significative categories (1), to investigate the laws based on those categories (2), and to inquire into the possible forms of that theory. In his following lecture (“*La obra filosófica de Edmundo Husserl*”/ “Edmund Husserl’s Philosophical Works”), García de Mendoza finally lists the significations he is so concerned about: the theory of the manifold, syllogistical theory, pure space theory, pure time theory and, he adds, an “etc.” This could give the impression that just by adding the adjective “pure” to a formal object one could envision a field, object or signification for pure logic. Yet the idea had been previously mentioned in his *Lógica*. In my assessment, García de Mendoza’s most meaningful passage appears in the fifth title (“El paso de la Ciencia a la Verdad” / “The Passage from Science to Truth”), fourth section (“Las ciencias eidéticas y las fácticas” / “Eidetic and Factual Sciences”), chapter seven (“Ciencia, Lógica y Epistemología” / “Science, Logic, and Epistemology”), of his *Lógica*’s first volume (García de Mendoza, 1932a, 58–66). There, García de Mendoza engages in the discussion on geometry, especially the problem of the space-time curvature ranging from Euclid to Riemann and Einstein. In particular, he tests Hans Driesch’s objections to Einstein with that of Husserl. Likewise, he visits discussions on Erwin Schrödinger, Niels Bohr, Werner Heisenberg, and other physicists. At the end of the section, García de Mendoza asks, as if it were self-evident:

¿no es necesaria y urgente una elaboración de una Teoría de las teorías posibles, de una fundamentación de los principios de la ciencia, en una palabra, de una Lógica Pura, como pretende actualmente el más grande pensador de la Lógica, Edmundo Husserl? (García de Mendoza, 2004, 66)¹¹

The passage is as theoretically dense as it is confusing. It would require us to provide a very broad context for each theoretical idea from physics to see how they relate to logic or pure logic. That would definitely lead us far afield. And this also applies to the would-be readers of what was supposed to be a handbook for high school students. Certainly, exploring Einstein’s relativity ideas was among García de Mendoza’s interests, after all, his 1936 PhD dissertation was devoted to this. However, in his 68-pages dissertation, very little is brought about in the sense of connecting phenomenological logic to pure spacetime in Einstein’s sense. The text rather revolves around

¹¹ “Is it not necessary and urgent to build a Theory of the possible theories, of the grounding of the principles of science, in one word, of a Pure Logic as nowadays the greatest thinker in Logic Edmund Husserl intends?” (My translation. — *J.L. M-M.*).

philosophical ideas of space and time (in Agustín, Brentano, Husserl, Scheler, and so on) as a conceptual antecedent to Einstein's formulations.

This evinces that García de Mendoza had an idea of the direction that phenomenological logic should take, yet he himself did not walk down through that path. There are many possible reasons we could speculate as to why this did not happen. We can name two. The first reason would perhaps be detrimental to phenomenology as a whole, since one could say that the project of a phenomenological logic as actively grounding science (in a broader sense) did not happen. *If this holds*, García de Mendoza would have fallen victim of the totalizing aim of a greater science as promised in Husserl's works. I don't think that is the case and there are myriad examples of how some phenomenological ideas did penetrate mathematics and other fields such as cognitive sciences.

The second reason could be that he entertained more than two projects for general philosophy and that they were incompatible with each other. In his *Lógica*, volume 1st, García de Mendoza envisions the possibility of a "new system," that would comprise the logic of and epistemology of thought, nature, history, life, and spirit. To each theme, García de Mendoza dedicates a small paragraph. Already here, nothing is said about pure logic nor Husserl. This is one of the few chapters that can be considered as purely original and less literature review. However, the project does not go beyond the outline. And this is, in general, what happens with García de Mendoza's original ideas.

Possibly a third additional reason could be given as a result of the second one: that his logical proposals maybe were not so engrained within the phenomenological project and that they would rather be closer to a general way of conceiving logic and science in the late XIXth century German philosophy. This, by the way, would give further credit to interpretations, such as Zirión's, that García de Mendoza was not a Husserl's epigone proper. In the conclusions, I will consider some these entailments.

However, sometimes history of philosophy usually has a strange and unsaid requirement according to which the proposed systems have to be finished by their authors. As it happens with García de Mendoza, I hold that some aspects of his unfinished project were later developed into a more detailed (and schematic) proposal, that of Francisco Larroyo. Though this construal is not risk-free (see conclusions).

In transiting towards our second author, we can consider a curious biographical perplexity. One of the inconsistencies concerning its biographical accounts concerns García de Mendoza's disciples. One indicator Zirión chooses to underline García de Mendoza's irrelevance or lack of influence on Mexican philosophy is the absence of

disciples¹². However, according to one of his students' manuscripts included in the *Evolución de la lógica de 1910 a 1961 (The Evolution of Logic from 1910 to 1961)*¹³, one of his disciples would become a major figure in Mexican philosophy: Francisco Luna Arroyo, or, as he was later known, Francisco Larroyo.

In this account, García de Mendoza was Larroyo's supervisor during his undergraduate studies. Allegedly, he supervised Larroyo's manuscript "El formalismo de Stammler en el Método de la sociología" ("Stammler's Formalism in the Sociological Method"). It is ambiguous, however, whether the manuscript was a dissertation or just a course's final paper. As of May 2023, the Central Library's database at UNAM does not show any information about Larroyo's undergraduate studies. The lack of information is not conclusive, as UNAM's Central Library is constantly adjusting its data basis and enlarging the scope of its documents. After all, both Larroyo's and García de Mendoza's undergraduate studies occurred a hundred years ago, and, likewise, the system of degrees was different from what it is nowadays¹⁴.

Be that as it may, it is clear that García de Mendoza did play some role in Larroyo's instruction and it is, thus, not far-fetched to claim that the former did have an impact in Mexican philosophy¹⁵. Beyond biographical connections, as I will argue, Larroyo will try to systematize some of García de Mendoza's ideas which did not go beyond the mere formulation of an unfulfilled project.

¹² What is considered a "disciple" is, for sure, a matter of debate. Does it imply having attended a course? I, for instance, attended a couple of lectures given by Antonio Ziri6n back in 2005 on Husserl's philosophy, in the Faculty of Philosophy at UNAM. Yet, in my opinion, this would not make me one of Ziri6n's disciples. Does it entail being supervised by someone? Being someone's teaching assistant? Working under someone's theoretical guidelines? Maybe a combination of all. Unless the parameters to consider a person someone else's "disciple" are established, I would take this indicator with a pinch of salt.

¹³ This is one of the volumes edited by Palibrio that unsystematically combines manuscripts authored by García de Mendoza and other material written by his students. This account in particular could have been written by Hernández Luna.

¹⁴ The problem with the degrees also applies to García de Mendoza. Besides having the bachelor and PhD degrees ("licenciatura" and "doctorado"), he was also an engineer. However, none of the biographical accounts we encountered made any mentions of his studies in engineering.

Again, the figure of Eli de Gortari seems as pertinent for mirroring with that of García de Mendoza, since he also had a background in engineering.

¹⁵ Evodio Escalante (2016, 39) suggests that, by analyzing the Mexican poet and Nobel Prize Octavio Paz's autobiographical texts, and the times in which he could have been a student and García de Mendoza a teacher in ENP, it is quite feasible that Paz was taught by García de Mendoza. If this was confirmed, García de Mendoza's impact on Mexico's intellectual history would be beyond questioning.

3. FRANCISCO LARROYO'S TEORÉTICA DE LA CIENCIA (THE THEORY OF SCIENCE)

Rather known as a Neo-Kantian philosopher, who actually started the *Gaceta Filosófica de los Neokantianos de México* (*Philosophical Gazette of Mexican Neo-Kantians*), Francisco Luna Arroyo—who, legend has it, formalized his *nom de plume* after a typographical error while signing as “Francisco L. Arroyo”—was born in Jerez, Zacatecas in 1908,—slightly younger than García de Mendoza—and died in Mexico City in 1981. Like García de Mendoza, he studied in Germany (specifically in Berlin, Freiburg, Heidelberg), but in the 1931–1934 period. Per some accounts, he might have studied with Husserl and Rickert, among other less-notable figures of German philosophy. Dulce María Granja Castro (2013), a Mexican scholar specialized in Kant and Neo-Kantianism, remains sceptic to the fact that Larroyo had studied with Husserl, given the available data on the Moravian philosopher's lectures by that time and his retirement in 1928.

Along his philosophical training, Larroyo got a diploma as a schoolteacher or “maestro normalista” in 1930¹⁶. In addition to the strange case of Larroyo majoring as a philosopher and whether it is the case that he was, or not, supervised by García de Mendoza, our author got his Master's and PhD diplomas from UNAM in 1934 and 1935, respectively. The former was in pedagogy, and the latter in philosophy. It is interesting to imagine how he was able to undertake a doctoral program in such a short time after obtaining his Master's degree. It may be the case that his Master's thesis was a bureaucratic requirement in the midst of his doctoral training or that he undertook those studies simultaneously given that they were two separate disciplines. These are not, by the way, the only biographical enigma, while inspecting Larroyo's biography¹⁷.

Hernández Luna (1948) flamboyantly brings up an expression of the popular and existent view on the influence of philosophy in Mexican politics. Accordingly, there were three schools of thought that had a great influence in the higher structures of Mexican power: positivism, Marxism, and neo-Kantianism. In the case of posi-

¹⁶ In Mexico, school teachers, at primary school, are usually formed in the Normal Superior School (Escuela Normal Superior), and it is considered a form of higher education.

¹⁷ A suspected link is that of Antonio Luna Arroyo (1909–2004), and whether he could be related to our author. A less known figure than Francisco Larroyo, Antonio Luna Arroyo shares many similarities with the former. In particular, the formation as “normalistas,” and their interest in phenomenology. Luna Arroyo wrote a conspicuous, but somewhat unknown book, *La sociología fenomenológica* (1978). In it, Antonio describes with praise “doctor Larroyo's” contributions.

Both Francisco and Antonio wrote the *Manual de lógica y ética según la interpretación dialéctica* in 1939.

tivism, it was due to the influence a group of intellectuals had on Mexico's pre-revolutionary regime, that is, during Porfirio Díaz long rule (1876–1911 with some intervals), especially during its last epoch. This group was known as “los científicos” (“the scientists”). Positivism was probably influential long before that, considering the influence of Gabino Barreda, who founded ENP, a positivist philosopher¹⁸. In the case of Marxism, this is due to the influence of the aforementioned model of “socialist education” during Lázaro Cárdenas's presidency. Finally, in the case of neo-Kantianism, some key posts in the Ministry of Public Education or SEP (“Secretaría de Educación Pública”) were occupied by neo-Kantian philosophers. This includes precisely Francisco Larroyo, who greatly influenced President Miguel Alemán's educational policies in the creation of the General Direction of Elementary Education (“Dirección General de Educación Normal”), which he briefly occupied from 1947 to 1949. He also held other positions within SEP. Before and after taking part in Alemán's educational policies, he was general secretary and later director of UNAM's Faculty of Philosophy. He is credited with the creation of the Pedagogy career in 1955 as well. Larroyo, thus, is a highly influential figure, and probably among the most influential philosophers in terms of directly impacting government policies. Paradoxically, his philosophical works did not have the same influence in the realm of professional philosophy.

In exploring Larroyo's logical proposal, the work I will consider here is *La Lógica de las Ciencias* (*The Logic of Sciences*, henceforth *LS*), whose first edition came out in 1938, only six years after García de Mendoza's *Lógica*. The work is co-authored by Miguel Ángel Cevallos (1887–1973), a Mexican educator and philosopher. Yet, in most biographical accounts (cf. Zirión, 2004; Granja Castro, 1999; Granja Castro, 2013), attributions, both critical and positive, are mostly directed towards Larroyo, and not Cevallos. It is not clear how these authors distributed the passages of the book and why the canon has marginalised Cevallos. In this paper, I will adhere to that tradition because that also allows us to make connections between the works on education that are authored exclusively or mostly by Larroyo¹⁹. Granja Castro (2013) divides Larroyo's works between pedagogical (or didactical) and philosophical, belonging *LS* to the latter group within the subgroup of “handbooks.” I don't think, by the way, that the classification demerits Larroyo's *LS*, as I argue in the following section.

¹⁸ The history of Mexican positivism is clearly richer and more diverse than the expression referred by Hernández Luna. For a comprehensive view see: (Zea, 1968).

¹⁹ In some of Larroyo's work the name of Edmundo Escobar appears as an “assistant”. It is worth noticing, that Escobar is one of Granja Castro's main sources for the entry on Larroyo in the *Enciclopedia Mexicana de Filosofía. Siglo XX*.

In *LS*, logic features as a “general theory of science” (Larroyo & Cevallos, 1965, 27). Basically, the authors consider that logic can be distinguished in two senses: apophantic logic, also called “analytic” at some points, concerned with judgements or propositions; and theoretic logic, which I will call the *teorética*, which is a synthetic logic that analyses the global structure of science. Whether he succeeds or not in this attempt, the outline of Larroyo’s *teorética* takes a step further in what García de Mendoza envisioned.

Then, *LS* engages in five parts. The first one is dedicated to the definitions of logic and its main classification; the second one is mostly dedicated to the problem of the empirical grounding of logic, which aligns with Husserl’s attack on psychologism; the third one is concerned with apophantic logic and, unlike García de Mendoza, does engage in rather formal problems such as the structure of judgements or propositions, modes of inference and truth. The fourth part is focused on the problem of validity for judgements, syllogisms, induction methods, statistical methods, philosophical methods, and also with a brief introduction to proofs (another aspect which is surprisingly absent in García de Mendoza’s *Logic*). The fifth part is devoted to the *teorética*, which comprises the general theoretics applicable to all sciences, and the special theoretics of each specific discipline.

Mentions to Husserl appear concretely in three sections: the critique to the empirical grounding of logic, which include the attack on psychologism; the portray of phenomenology as a “philosophical method” of inference; and the *teorética*.

As our preferred tool of contrast, Ziri3n’s (2004, 130–135) considerations on Larroyo are harshly critical, ranging from qualifications of ineptitude to those of incomprehension. He dedicates less space to Larroyo than to García de Mendoza and focuses on Larroyo’s discussion with Gaos (Gaos & Larroyo, 1940), and the passages in *LS* concerned with the phenomenological “method”²⁰. Curiously enough, unlike with—one of the few—recognitions of García de Mendoza’s virtues, the one related to the treatment of Husserl’s attack on psychologism, Ziri3n does not take into account Larroyo’s and Cevallos’s dealing with this issue. This is noteworthy, because their exposition is quite comprehensive not dedicating it exclusively to psychologism, which is one of the forms of empirical reductionism of logic, but also to biologicism, anthropologism, and sociologism. These reductionisms do appear in Husserl’s *Prolegomena* in the *Logische Untersuchungen*.

²⁰ Larroyo insists on the “phenomenological method” even in his pedagogical works, for instance Larroyo (1977, 138).

Now, an interesting difference with Larroyo's address of the forms of reductionisms is that of "grammaticism." It is interesting for at least two reasons. Firstly, because Husserl does not include this form of reductionism as a variation of the empirical reductionism. Indeed, at the end of the *Prolegomena* (Husserl, 2004, C10, §4), Husserl anticipates the potential risks of engaging the exploration of logic from the viewpoint of language and grammar, as if it was possible to foresee that analytic philosophy (at this point still inexistent) could be a competing approach to his. Larroyo and Cevallos, in this sense, talk about a grammaticist reduction. Certainly, the culprits of this stance could not be analytic philosophers in pain of a crass anachronism, but rather Alexander von Humboldt, Karl Otto Erdman, Wilhelm Wundt, and others.

My focus, however, is on the *teorética*. Larroyo's *teorética* is divided in general and special. General theoretics (*teorética general*) alludes to the universal scientific and "rigorous" principles applicable to all sciences, whereas special theoretics (*teorética especial*) address specific disciplines. This way of speaking about science is prevalent in Husserl's *Logische Untersuchungen*, and the *Formale und trazendentale Logik*. Moreover, emphasis on the role of logic and science can be appreciated in the remarks on the differences between essential and extra-essential principles, and the differences between laws and explanatory principles of reality.

Larroyo's *teorética general* then explains certain scientific principles such as hypotheses, axioms, demonstration, evidence. If these concepts, which are found in handbooks and treatises of the philosophy of science (cf. Bunge, 2000), were actually connected with what García de Mendoza thought of as the "pure significations," that would have been a significant contribution to phenomenology not only in Mexico. However, it is not the case, as the exposition is mostly of a didactic character. Moreover, although the catalogue of specific disciplines is quite wide, ranging from physics, chemistry and biology to sociology, history and political economy, in each of the passages dedicated to the specific disciplines the connections with the *teorética general* are far from clear, if not rather general assumptions.

Larroyo (and Cevallos) clearly advances the aim of García de Mendoza in providing general science with a logical structure inspired in philosophies such as phenomenology. They both belong to a *Zeitgeist* where that was a pending task for philosophy. The step further taken by the *LS*'s authors did not, however, achieved the result expected in actually bestowing science with a functioning *teorética general*.

It is moot discussing that Husserl's contemporaries or his successors have resolved that issue either. We have, instead, several guidelines on how that could be further developed and, hence, García de Mendoza and Larroyo could have played a more transcendent role if their philosophical ideas were known abroad.

Yet, those attempts in strengthening phenomenological logic are not their only important contribution, but rather what can be called their “pedagogical phenomenology”.

4. CONCLUSIONS AND FURTHER OBSERVATIONS

Adalberto García de Mendoza and Francisco Luna Arroyo (also known as Francisco Larroyo) played important roles in the history of Mexican philosophy in the first half of the 20th century. However, surprisingly enough, their significance is either marginalised or ignored in the available historical accounts (cf. Hansberg, 1995). As it happens, they both were involved in a first phase of the development of phenomenology in Mexico, along with Antonio Caso who has indeed received more attention than García de Mendoza or Larroyo. In what follows, I will argue that they not only can be granted with the titles of pioneers of Mexican phenomenology, but also acknowledged for their originality in exploring two paths of phenomenology that are not among the most cultivated ones: logic and pedagogy.

Considering the latter, the phenomenological focus on education comprises several issues: the approach to “learning” cognitively and its relationship with empathy (*Einfühlung*); the influence of the phenomenology of life in the learning process; what can be considered as an “object” (*Gegenstand*) of learning in the phenomenological sense; the role of perception and experience, and so forth²¹.

The discussion on how phenomenology relates to pedagogy, thus, can be grouped in two realms: firstly, the phenomenological pedagogy, that is, when education researchers or pedagogues resort to phenomenological philosophy; and phenomenology of education, that is, the phenomenological analysis of education. The distinction is not only syntactical, since the object each of these variants are focused on differs: in the former case the object can be anything, since the phenomenological accent is put on a particular method or perspective; in the latter case, the object is clearly education. The other distinction is that in the former case the phenomenological pedagogy is mostly entertained by pedagogues and education researchers; whereas in the second situation, philosophers (or presumably “phenomenologists”) are the ones inquiring into a particular object, namely, education or specific pedagogical practices.

While considering García de Mendoza’s or Larroyo’s relationship with pedagogy one could set forth two aspects:

a) Their role as theorists of pedagogy, that is, reflecting their concerns with the philosophy of education and the history thereof, and

²¹ For a comprehensive view, see: Selvi (2008).

b) Their role as pedagogues in the practical sense and as intellectuals whose work as educators and as public servants advance pedagogy in higher education.

As it stands, this two-fold consideration puts Larroyo apart from García de Mendoza for whom probably only the second sense of this relationship with pedagogy would apply. As evinced by their biographical accounts, and given the high-rank positions that they had in directing institutions (the Faculty of Philosophy, the National Conservatory of Mexico, and the numerous government positions Larroyo held), we can say that both authors had a definitive influence on education in Mexico even beyond philosophy, not to mention the more limited field of phenomenology.

Larroyo, on the other hand, was a consecrated pedagogue and educator. His contributions to the field comprise historical treatises, for instance his *Historia general de la pedagogía* (Larroyo, 1973) or his *Historia comparada de la educación en México* (Larroyo, 1947); and, on the other hand, philosophy of education, for instance, his *Sistema de la filosofía de la educación* (Larroyo, 1977)²². Unlike the common view that Larroyo committedly resorted to Neo-Kantian philosophy for his pedagogical projects (Delgado, 2016), his use of or appeals to Husserl in these works are, however, rather sparse. Other than mentioning the “phenomenological method,” they mostly constitute a secondary backing source when dealing with Theodor Litt’s vitalist philosophy and his relationship with education. Curiously enough, concerns about “life” are also present in one of García de Mendoza’s aforementioned projects. In particular, while addressing the “Logic and Epistemology of Life” (García de Mendoza, 1932a, 80). However, this section is devoted to biology. Both authors, thus, miss the opportunity of more seriously engaging in philosophy by, for instance, appealing to Husserl’s *Lebenswelt*. Thought, admittedly, they were not acquainted with the works in which Husserl developed this idea further²³.

Now, neither of the senses mentioned above referring to the relationship between pedagogy and phenomenology is where I think that García de Mendoza and Larroyo can contribute to. This is why I think that both authors can be seen as participants of a *pedagogical phenomenology*.

In a way, pedagogical phenomenology can be seen as didactic and introductory treatises or handbooks. Yet this is not a way of exempting them of whatever theoretical shortcomings they may have. Pedagogical phenomenology is a way of addressing phenomenology that sets the ground for both the wider public and the potential specialists to elaborate in greater detail in the phenomenological body of knowledge.

²² Respectively, “*General history of pedagogy*,” “*Compared history of education in Mexico*,” and the “*System of philosophy of education*.”

²³ Unlike Antonio Luna Arroyo (1978) in his *La Sociología fenomenológica*.

Pedagogical phenomenology is, thus, a particular form of education, whose focus is on laying the conceptual ground for engaging with phenomenology. It is in this second phase that García de Mendoza's and Larroyo's critiques focus, but not the former. Pedagogical phenomenology would not be mere propaedeutics, but a commitment with a potential *other*, if we can put it in Emmanuel Lévinas's (1961) terms. It is almost in ethical terms, rather than in whether both our authors clearly "comprehended" Husserl's works, that they can be assessed and put on a new light.

I want to leave the final space of this article for some clarifications, addenda, and by pointing to different paths of analysis.

The first one has to do with the—rather potential—relationship between García de Mendoza and Larroyo themselves. As noted in the last part of the section devoted to García de Mendoza, although there are some signs of the personal relationship between both of our authors, there are no such signs of a closer collaboration or relationship between them. Thus, I admit that claiming that Larroyo's *teorética* is a continuation of García de Mendoza's concerns with 'pure logic' entails a risky leap. One could argue, in that sense, that this "science-talk," to call it somehow, was pervasive through both author's epoch and even prior to that in late XIX century's German philosophy²⁴. Yet, I am willing to face the risks of such interpretation in pointing out the common features of both authors' attitude towards logical phenomenology.

Further, in a sense, neither García de Mendoza nor Larroyo can be considered as "phenomenologists" if this is supposed to equate what we know today as "Husserl scholars." In that sense, Ziri6n's assessment can be considered correct. Certainly, neither García de Mendoza nor Larroyo were specialized scholars on Husserl and/or the—ever changing—phenomenological technical apparatus, to the level of people like Iso Kern (1962), V.I. Molchanov (1988) or Ziri6n himself, among many others. There are, however, nuances. First, discussions on Husserl's thought are an evolving matter and access to his works has drastically changed since García de Mendoza's and Larroyo's stay in Germany.

Secondly, Ziri6n's assessment of their quality as phenomenologists anachronistically raises highly specialized academic standards for both García de Mendoza and Larroyo. As Escalante (2016) rightly points out for the case of García de Mendoza, the Mexican Academy and the professionalization of philosophy was underway and it

²⁴ Such "science-talk" was also common in the beginnings of analytic philosophy, especially in the trend originated in the Wiener Kreis. As it happened with the development of logic as noticed in the introduction of this paper, science-talk became one of analytic philosophy's main features, whereas one could say that this aim was not really transmitted to Husserl's disciples and epigones.

started to consolidate only in the 1950s, especially during Miguel Alemán's presidency (1946–1952).

Relationships with other notable figures are left aside for reasons of scope. In this sense, we can first mention Antonio Caso (1883–1946). A constantly disputed matter is whether both García de Mendoza and Larroyo learned phenomenology from Caso. Some specialists (cf. Ziri6n, 2004; Granja Castro, 1999) conclude that this could not have been the case after a detailed scrutiny. However, it is clear that they did have a close relationship. García de Mendoza included Caso in the acknowledgments of his *L6gica*. Francisco Larroyo also dedicated his Master's thesis to Antonio Caso.

Another notable mention is the influence of the intellectuals who fled the Spanish Civil War and Francisco Franco's dictatorship (1939–1975) known as the Spanish Exile. One of the notorious figures from the exile is that of Jos6 Gaos, an erudite that directly translated Husserl's works to Spanish, including the *Logische Untersuchungen*. Gaos is so important that Ziri6n (2004, 38), for example, appeals to Gaos's lack of acquaintance with Garc3a de Mendoza to underline the latter's irrelevance. Gaos also engaged in a debate with Larroyo in 1949, later published as *Dos ideas de la filosof3a (Pro y contra la filosof3a de la filosof3a)*. Certainly, the Spanish exile drastically changed Mexican philosophical landscape (and in other sciences as well), and the cultivation of several fields of knowledge in Mexico are indebted to their contributions. However, it is also true that, for many, the arrival of the Spanish exiled intellectuals is a turning point in Mexican philosophy that relegated the life and works of the likes of Garc3a de Mendoza into oblivion.

Another important issue is that of Neo-Kantianism. In a way, I have chosen to suspend both Garc3a de Mendoza's and Larroyo's appeals to Neo-Kantianism in order to focus on how they resort to Husserl's phenomenology. This analytical decision could have its shortcomings. One non-minor issue in this sense is that there are multiple paths of dialogue between Husserl and authors like Herman Cohen or Paul Natorp, especially when it comes to create a logically grounded general science. Both Cohen and Natorp are important figures for Garc3a de Mendoza and Larroyo. *La L6gica de las Ciencias* is dedicated to Cohen. Garc3a de Mendoza even compared Husserl's pure logic to that of Cohen (Garc3a de Mendoza, 1932a, 131).

Interestingly, comparative biography, which was not my intention here, would allow us to highlight other curious similarities between Garc3a de Mendoza and Larroyo than the ones I've focused on in this paper. For instance, at a point they both paid significant attention to Marxist philosophy and would even consider the importance of engaging with dialectical logic (cf. Garc3a de Mendoza, 2013c; Larroyo & Cevallos, 1965, 67). This would even allow a deeper comparison with the Marxist Logician

Eli de Gortari, another prominent Mexican philosopher who, unlike our two authors here, did not pay too much attention to phenomenology²⁵. Throughout the Twentieth Century, Marxism was one of the main XXth Century's philosophical perspectives and it also offered a variety of positions (e.g., the so-called materialist dialectic or "*diamat*" as it was known in the USSR, the Frankfurt School, etc.). García de Mendoza and Larroyo would not be the only ones in assessing the importance of engaging in debates with, or even using Marxist ideas. We have the clear example of Jean-Paul Sartre, an existential phenomenologist, and his *Critique de la raison dialectique* (Sartre, 1960). This certainly leaves another line of analysis that would be worth exploring.

As a self-criticism, I do admit that while dealing with Larroyo's contribution relegating Cevallos's one is not only arbitrary but uncharitable to his work and figure. That our current scope does not allow us to cover him thoroughly is not the best rationale to cast Cevallos aside. Although his figure probably does not match that of Larroyo, he certainly made important contributions to the fields of education and phenomenological philosophy.

The final conclusion has to do with the aim towards developing a broader understanding of science. This is one of the main similarities, if not the main one, between García de Mendoza and Larroyo (and Cevallos). *Prima facie*, the aim towards a general science supported by logic—the "Pure Logic" in García de Mendoza, and Larroyo's *teorética*—could seem as nothing more than the repetition of a phraseology that was common to Husserl's and Cohen's times. However, I think this construal would be mistaken. By insisting in their science taxonomy attempts, both García de Mendoza and Larroyo signal that their conception of science is something more than mere phraseology. It remains disputable, however, whether this "science talk" is phenomenological itself.

Husserl's own concern that the process of specialization could result into a fragmentation where logic would end up not ground science is certainly shared by both García de Mendoza and Larroyo. The attitude is more patent in Larroyo and Cevallos, since they underline specific aspects of different sciences and their respective methods, modes of inference, and logical bases (as wrong as they might be, more if we test them against nowadays scientific standards).

Now, I do recognize Antonio Ziri3n's effort in creating a rich comprehensive view of the history of phenomenology. His work is already an essential reference for analysing the phenomenological movement in Latin America. That being said, I do consider his overall assessment of García de Mendoza and Larroyo as unjust. Both of

²⁵ When not having an explicit negative stance towards it (Ziri3n, 2004, 375).

our authors wrote at a time where the phenomenological discussion in Mexico was underdeveloped, and, in the case of García de Mendoza, practically non-existent. A pedagogical phenomenology, that is, as described above, the colossal effort in opening those paths not only for the highly specialized discussion (whose contexts, again, for Mexico were practically absent) but for the wider public was a precondition for the possibility of a further development of the discussion. Hence, I think that the most charitable attitude we can have towards both García de Mendoza and Larroyo is that of gratitude, despite its theoretical shortcomings. Though contrafactual assertions must perhaps be avoided in philosophy, I believe that without their contributions Mexican phenomenology would have had a great deficit.

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