Philosophical Research in Brazil:

A Structural Topic Modeling Approach with a focus on Temporal and Gender Trends

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ABSTRACT

This paper employs structural topic modeling (STM), a text-mining technique, to describe the academic philosophy landscape in Brazil. Based on a public national database, a corpus consisting of 12,515 abstracts of monographs (theses and dissertations) defended in Philosophy Graduate Programs between 1991 and 2021 was compiled. The final STM model identified 74 meaningful research topics, clustered into 7 thematic categories. This study discusses the prevalence of the most significant topics and categories, their trends across three decades and their (positive or negative) association with the supervisor's gender. Results show the first empirical evidence that Brazilian philosophical research exhibits a greater focus on philosophers and their works, rather than on specific themes or problems, aligning with common sociological perceptions within the academic community. Moreover, by visualizing the variations in topic prevalence over time, it was possible to track the rise or decline of the major interest categories and topics. Finally, results also show how topics related to male philosophers garner greater attention throughout the corpus and which topics are more or less influenced by gender.

KEYWORDS

1. INTRODUCTION

The metaphilosophical debate regarding the structure and nature of Latin American philosophy is present in nearly every Latin American country, extending from Mexico to Argentina (Nuccetelli et al. 2009, 2020). Brazil is no exception. Questions about the possible existence of a distinct Brazilian philosophy, its origin, the influence of colonization and the Western canon, and the presence of "true" Brazilian philosophers and philosophical groups have haunted intellectuals since at least Sylvio Romero's essay, *A philosophia no Brasil - ensaio crítico* [*Philosophy in Brazil - a critical essay*], dating back to 1878. This ongoing debate continues to be fueled by a series of recent publications exploring the history of Brazilian philosophy and the academic profile of Brazilian philosophers (Cabrera 2013; Wuensch 2016; Domingues 2017; Canhada 2020; Margutti 2013, 2020; Pugliese 2019, 2020; Peruzzo Jr. and Oliveira 2023; Seabra et al. 2023).

This article offers a complementary view to these historical and metaphilosophical studies by examining the themes of interest within philosophy graduate theses and dissertations (hereafter monographs) over the last 30 years. Its goal is to answer three research questions, as follows.

RQ1: What were the major topics explored in philosophy graduate monographs from 1991 to 2021?

To address this question, this study employs structural topic modeling (STM), a text-mining technique frequently utilized in digital humanities research. STM is a member of a class of unsupervised methods that allows for the inference of latent

topics from a corpus of documents. STM has been applied in a variety of contexts and to different document types. Recent applications include analyzing the structure of scientific disciplines through abstracts or articles (Carvalho 2021; Candido 2021; Mostafa 2023), identifying the primary reactions of social media users to specific events or services based on posts or reviews (Hu 2019; Taecharungroj 2023), and assessing the responses of subjects to open-ended questionnaires in the social sciences (Roberts et al. 2014; Lindstedt 2019).

In philosophy, this technique was previously used by Malaterre et al. (2019) to reconstruct the main research themes within philosophy of science in the English-speaking world. To accomplish this reconstruction, the authors analyzed 4,602 articles published in the journal *Philosophy of Science* from 1934 to 2015. These articles were clustered into 126 topics and 16 categories. More recently, Weatherson (2022) conducted an unprecedented investigation of the 12 most influential philosophical journals from 1876 to 2013. A total of 32,261 articles were analyzed and sorted by 90 topics and 12 categories. Additionally, it is possible to find more specific studies employing STM analysis on ancient Greek philosophy (Koentges 2020), on philosophy of biology (Malaterre et al. 2020), on the evolution of the ideas of Francis Bacon (Grajzl and Murrell 2019), and on bioethics and the philosophy of medicine (Bystranowski et al. 2022).

STM analysis also allows researchers to uncover temporal trends and identify which topics and categories are rising or falling in the 'stock exchange' of the academic philosophy market. Our second question follows from this diachronic analysis.

RQ2: What were the temporal trends in research topics within philosophy graduate monographs from 1991 to 2021?

To answer this question, we explored the STM analysis results and considered the extent to which the research topics have stabilized, grown or declined. Describing this evolution shows which directions the Brazilian philosophical community has invested more or less in over the last three decades.

RQ3: Which research topics do men or women more commonly supervise as indicated philosophy graduate monographs from 1991 to 2021?

This study incorporates a particular concern of addressing gender inequality within the discussion of the structure of Brazilian academic philosophy, which confronts a "demographic challenge" as the discipline fails to mirror societal diversity and appears indifferent to the responsibility of advancing progress (Alcoff 2013). Previous studies have extensively documented the significant gender inequality within philosophy departments globally (Schwitzgebel and Jennings 2017; Wilhem et al. 2018; Canadian Philosophical Association 2018; Araújo 2019; Beebee 2021; Goddard et al 2021; Schwitzgebel et al. 2021; Jennings and Dayer 2022; Hassoun et al. 2022; Acevedo-Zapata and Rivera-Sanín 2023). Hence, it became imperative to investigate whether specific subfields exhibit a more equitable representation of women philosophers.

The remainder of this article is structured as follows. In section 2 we provide an outline of our methodology by providing a concise explanation of Structural Topic Modeling and an overview of the research workflow. In section 3 we first discuss the

results of the application of the model to our corpus and present the final model, which comprises 74 topics sorted into 7 distinct categories (subsection 3.1). There, we also offer interpretations and labels for each topic, discuss their expected prevalence, and provide a rationale for their categorical classification. In the final two subsections (3.2 and 3.3), we assess the temporal and gender-related patterns of topics and categories. Due to space constraints, we limit our discussion to the most salient trends before concluding in section 4.

2. METHODOLOGY

This study used the abstracts of philosophy graduate monographs registered within the CAPES (Coordination for the Improvement of Higher Education Personnel) Catalogue of Theses and Dissertation. Every Brazilian graduate program is periodically evaluated by CAPES through a series of indicators established by the scientific community, ranging from its infrastructure (e.g. buildings, laboratories, libraries, and equipment), the staff and faculty (e.g. tenured professors, visiting researchers, postdoctoral fellows, students), and the research projects and their outputs (e.g. publications, conferences, research grants, graduate monographs, international or national partnerships). Each program is responsible for filling in the necessary forms and submitting all relevant data through a specific government platform called Sucupira (https://sucupira.capes.gov.br/sucupira/). Since all programs are evaluated exclusively based on this data, CAPES' forms have an extremely high response rate. Evaluation results in a national ranking of graduate programs (ranging from 3 to 7): the higher the rank, the greater the distribution of scholarships and

research funding, and the better the program's visibility within the national academic community.

The Catalogue of Theses and Dissertations is a specialized compilation of this data collection, which is publicly accessible on the CAPES - Open Data Portal (https://dadosabertos.capes.gov.br/). This widely used database is a comprehensive record of graduate monographs in Brazil. The available data is consolidated from 1987 to 2021, encompassing a current total of 1,395,895 entries with 58 variables. The variables consist of metadata for each monograph, including the author's and the supervisor's names, the year of defense, the location and institution where the monograph was defended, its title, keywords and abstract, among other information.

In terms of academic training within Brazilian graduate programs, the most common trajectory spans a 6-year period — a two-year master's degree followed by a four-year doctorate. Consequently, we have chosen to utilize the final products of these two degrees — master's dissertations and doctoral theses. Dissertations from the Professional Master's Degree in Philosophy have been excluded, as its main emphasis is on teaching philosophy, a program specifically designed for teachers employed in elementary and high schools.

To analyze the corpus, we employed Structural Topic Modeling (STM). STM is an unsupervised machine learning algorithm designed for the inductive detection of latent topics within a given corpus (Roberts et al. 2014, Grimmer et al. 2022, Churchill and Singh 2023). Topics are defined by a probability distribution over all words within a corpus, indicating the likelihood of specific words being associated with that topic. Each topic represents a semantic theme or subject matter, and its content is interpreted through a cluster of words sharing that common theme. Thus, given a set of documents, such as the abstracts of monographs in our case, a topic

model will generate a summary consisting of the most prevalent topics. This capability enables researchers to identify and quantify the different themes present throughout the corpus. What distinguishes STM from other topic models is its ability to incorporate various types of document metadata into the analysis. With this approach, the inference of topics, their content, and prevalence are structured based on covariates. These covariates might include the publication date and venue, as well as personal characteristics of the author, such as gender, race, and political ideology. This enables a more nuanced and contextually informed understanding of the topics within the corpus.

The model employed in this study included the continuous variable "Year of Monograph Defense (1991-2021)" and the dummy variable "Gender of the Supervisor (woman or man)." The latter covariate was derived from the "Supervisor's Name" variable in the database. Using their first names, an automated gender classification was generated based on data obtained from the 2010 Brazilian Census (Meirelles 2021). Manual classification was performed in cases where the supervisor's gender was not captured through this method (n: 349).

The implementation of STM requires a series of methodological steps, which we carried out through the following workflow: 1) Corpus Construction; 2) Text processing; 3) Model selection and assessment; 4) Topic interpretation; 5) Extraction and analysis of covariate effects (Roberts et al., 2014, 2019). The workflow was executed using R software and specific packages listed in the References below. The repository containing code, data, figures, and tables can be accessed at {author's GitHub repository}.

2.1 Corpus construction

The entire CAPES Catalogue was initially filtered under the field 'Philosophy', resulting in a database of 12,525 monographs. To conduct STM analysis, the variables "Year of Defense", "Supervisor's Name", "Title", and "Abstract" of the monographs were utilized. Other variables related to institutional attributes, such as "Region", "State", and "University" where the monograph was defended, as well as the "Author's Name" and the "Author's Gender", were solely used for sample description and discussion of the results.

The median number of words in each abstract was 163. However, in some cases, a limited number of words or incomplete descriptions were present due to filling errors by the graduate program. To ensure standardized quality of the abstracts, allowing for a proper analysis of topics, entries with the following characteristics were excluded: 1) works with abstracts with fewer than 15 words, which indicated an insufficient description of the monograph's subject matter (n: 172); 2) dissertations defended in Professional Master Programs (356); 3) works with abstracts in languages other than Portuguese (n: 70); 4) entries without the supervisor's name (n: 184); 5) entries without a title (n: 1); 6) duplicated entries (n: 6); (7) monographs with abstracts composed exclusively of repeated words (n: 3); (8) works defended before 1991 (n: 7). This resulted in a final corpus of 11,726 theses and dissertations defended in Brazilian Philosophy graduate programs between 1991 and 2021.

2.2 Text processing

Following recommendations in the literature (Roberts et al. 2019, Grimmer et al. 2022), the text from the abstracts were subjected to standard data preparation to make the corpus suitable for STM. The following transformations were applied: conversion of all text to lowercase and removal of punctuation, numbers, and special characters. Subsequently, bi- and trigrams relevant to philosophy were created, meaning that expressions with two or three words were combined into a single word without spaces. For example, the expression 'pure reason' was transformed into 'purereason'. To identify the main ngrams in the corpus, a frequency analysis of the most common bi- and trigrams was conducted. Trigrams with up to 5 occurrences and bigrams with up to 10 occurrences in the corpus were generated. Common stop words (such as 'the', 'a', 'or') were excluded using a standard Portuguese dictionary, as well as tokens with high frequency but very minimal semantic content for topic analysis (such as 'philosophy', 'work', and 'chapter'). Tokens that appeared only once in a single document were excluded as well. It is worth noting that we did not stem or lemmatize tokens (reduce words to their root or transform them into canonical forms based on their roots) and we did not filter tokens from specific grammatical classes. This approach is consistent with recent literature on text processing (Schofield and Mimo 2016; Grimmer et al. 2022). The processed documents were transformed into a document-term matrix.

2.3 Model selection and assessment

Another essential step in STM analysis is determining the optimal number of topics. There is no single statistical metric that addresses this issue. Thus, we ran models with different numbers of topics, in intervals of 10 from 40-100. Specific procedures can then be employed to establish which model is better than others (Weston 2023). Initially, we inspected diagnostic graphics based on four parameters: semantic coherence, lower bound, held-out likelihood, and residuals. After evaluating these parameters, the range between 70 and 85 topics appeared to be the most appropriate (see Appendix A of the Supplementary Materials). Subsequently, individualized models within the selected range were run and evaluated. To determine the final model, we also needed to inspect each model and its findings.

2.4 Topic interpretation

A topic model offers researchers two primary probability distributions: the matrix β, which represents the most probable terms for each topic, and the matrix γ, indicating the extent to which each document is associated with each topic. Consequently, an optimal model should yield interpretable topics, those characterized by a cluster of word distribution that researchers can readily identify as representing a specific theme, along with a collection of documents that are closely related to the identified theme.

Upon careful consideration, a model comprising 80 topics was selected, consisting of 11,726 documents and a total of 21,515 tokens in the corpus. Two researchers then independently assigned labels to each topic based on the most

likely terms and the most representative works. They then compared their labels and, in cases where a topic had different labels, engaged in discussion and reached a consensus on a common label. The other researchers subsequently validated the labels and the entire group reached consensus. Six topics were excluded due to a lack of interpretability (1, 2, 10, 21, 46, 80). These topics exhibited a high degree of generality and randomness in their terms and in the representative monographs, making it impossible to identify a clear theme. The final model therefore comprises 74 topics.

Ultimately, more general philosophical categories were established to classify topics. This classification is crucial for reducing the complexity of the information provided by STM and gaining a broader understanding of the trends in philosophical graduate monographs. The same methodology for labeling topics was employed as before . As an additional methodological step, the UMAP (*Uniform Manifold Approximation and Projection*) algorithm was utilized to validate the categorical classification. UMAP is a dimensionality reduction technique that enables the visualization of the underlying structure of a complex dataset in a low-dimensional graph (MacInnes et al. 2018). In this context, this technique helps verify whether documents labeled with a particular category exhibit a corresponding level of similarity in a two-dimensional graph (the plot can be seen in Appendix B of the Supplementary Materials).

2.5 Extraction and analysis of covariate effects

Finally, the temporal and gender trends of both topics and categories were analyzed. To examine the diachronic aspect, the "Year of Defense" variable was

utilized, spanning from 1991 to 2021. The focus was on elucidating the temporal dynamics of the most prominent topics, with particular attention to the ascent and descent of the top-10 topics studied over the 30-year period. The gender covariate was represented as a dummy variable (man-woman), which enabled the inference of potential influence of the supervisor's gender on the prevalence of each topic. The discussion was limited to topics with p-values less than 1% ($p ≤ 0.01$), considered as statistically significant.

3 RESULTS AND DISCUSSION

3.1 Philosophy Graduate Programs in Brazil

Academic development in Brazil is closely linked to federal government institutions, specifically back to 1951 when CAPES was founded and the first graduate programs were created. Amid the Brazilian military dictatorship of 1964-1985, there was a notable nationwide expansion and professionalization of Universities, particularly after the Educational Reform of 1968, which established the National Graduate System (SNPG) and granted CAPES the authority to evaluate national graduate programs. In 1971, Brazil witnessed the founding of its inaugural philosophy graduate program at the University of São Paulo (USP), offering both master's and doctoral degrees. According to CAPES' latest report, Brazil now has 52 master's and 26 doctoral programs in Philosophy (CAPES 2022).

The growth of philosophy graduate programs is also reflected in the number of doctoral theses and master's dissertations[1] defended throughout the period under examination, as illustrated in Figure 1.

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[1] While in North America and some parts of Europe it is most common to write a master's thesis and doctoral dissertation, these terms are reversed in Brazil.
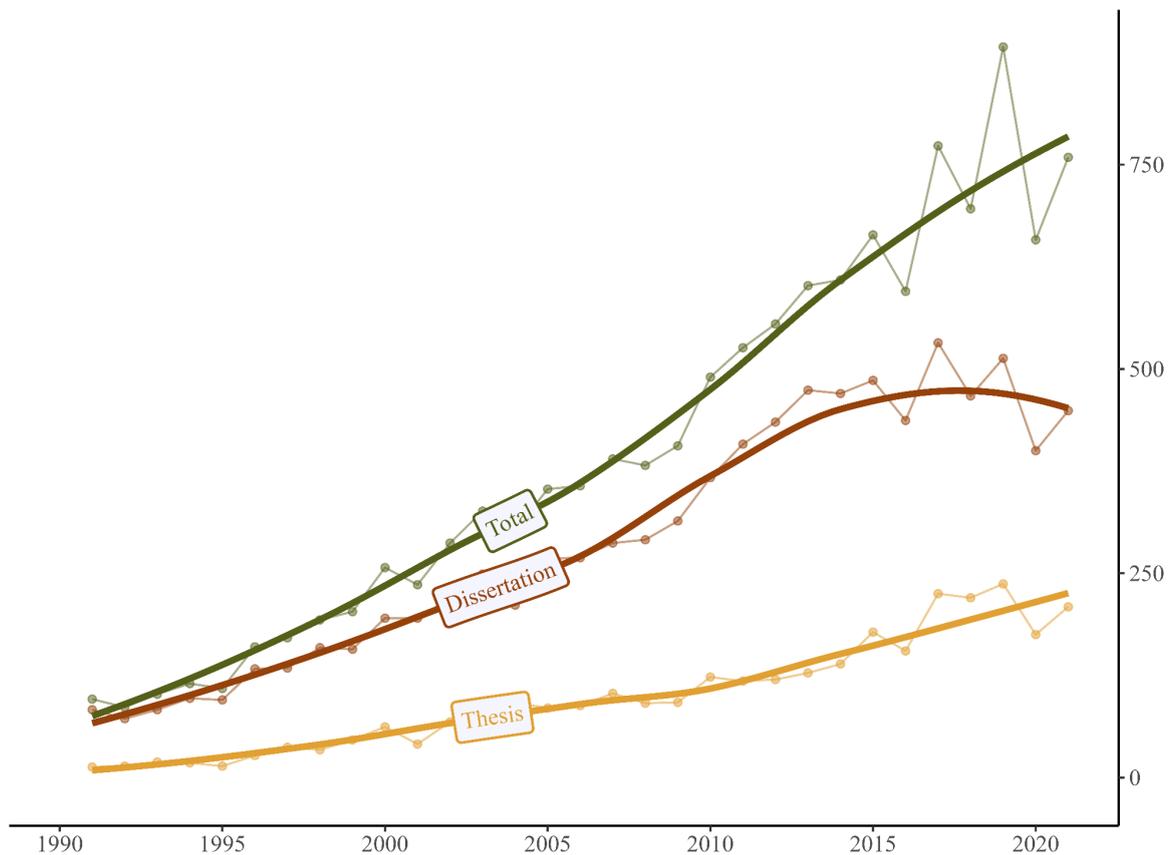
Fig. 1 Evolution of Doctoral Theses and Master's Dissertations Defenses in Philosophy Graduate Programs in Brazil between 1991-2021.

In 1991, a total of 96 monographs were defended, comprising 83 master's dissertations and 13 doctoral theses. By 2021, this number had significantly increased to 658, indicating a growth of 585.42%. Among these, 449 were master's dissertations and 209 were doctoral theses. Three key observations are important here. First, the ratio of theses to dissertations increased 196.85% and settled at around 45% of the total number of monographs. Second, the most productive year was 2017, with 757 monographs defended. Third, there has been a decline in defenses over the last two years, returning them to levels similar to 2016. This reduction is seen across all graduate programs in Brazil and can be largely attributed to the impact of the COVID-19 pandemic (Corrêa et al. 2022; Ribeiro 2023). For

philosophy programs specifically, it may also reflect the 2017 end of mandatory philosophy classes in high schools, constraining even more the field's job market.

Moreover, this expansion in philosophy graduate programs did not occur equally for everyone. Given our unit of analysis is monographs, we were able to determine that less than 20% (2,279) of them were supervised by women, and less than 30% (3,345) were authored by women. The prevalence of women, whether as supervisors or students, has not significantly changed over thirty years, indicating a persistently unbalanced scenario.

3.2 Academic Philosophy in Brazil: A Thematic Description

The final STM model consists of 74 topics sorted into 7 categories, representing the main topics of interest in monographs from philosophy graduate programs in Brazil. Table 1 presents a list of all of the topics within each category, ordered by their estimated prevalence. The topics are described using the following information: 1) categorical classification; 2) label and number; 3) the five most likely words in the topic (β matrix); and 4) average prevalence in the corpus (γ matrix). The prevalence of each word in the β matrix can be found in Appendix C of the Supplementary Material.

TABLE 1 The 74 Topics identified in Philosophy Graduate Monographs, Grouped into 7 Categories, with the 5 Most Probable Terms for each Topic and its Average Prevalence within Corpus.

Label (Topic)	Top-5 Terms (β)	γ (%)
SOCIAL AND POLITICAL PHILOSOPHY		**23.37**
FOUCAULT (39)	foucault, power, michel, self, practices	2.29
MARX (49)	marx, capital, social, production, form	2.04
DEMOCRACY (33)	politics, state, democracy, political, power	1.89
ARENDT (48)	arendt, politics, hannah, action, world	1.77
ROUSSEAU (12)	rousseau, religion, education, nature, state	1.64
RAWLS (68)	justice, rawls, principles, society, fairness	1.52
HUMAN RIGHTS (18)	law, rights, state, human rights, legal	1.44
HOBBES (47)	hobbes, state, nature, locke, power	1.40

HABERMAS (25)	habermas, discourse, rationality, grounding, reason	1.37
CRITICAL THEORY - 1stG (3)	adorno, enlightenment, dialectics, horkheimer, reason	1.34
LIBERALISM (32)	freedom, individual, free, condition, form	1.29
MARCUSE (75)	society, social, marcuse, social*, societies	1.05
MACHIAVELLI (30)	action, machiavelli, politics, power, prince	1.00
JURISPRUDENCE (45)	law, legal, rules, kelsen, hart	0.80
CRITICAL THEORY - 3rdG (56)	recognition, justice, honneth, social, social*	0.68
GENDER STUDIES (9)	woman, gender, women, form, sex	0.64
AGAMBEN (20)	agamben, exception, state, politics, giorgio	0.74
ERIC WEIL (50)	cinema, violence, weil, politics, image	0.57
METAPHYSICS		**17.04**
KANT-Metaphysics (69)	kant, reason, transcendental, kantian, pure reason	2.11
PLATO I (65)	plato, socrates, republic, dialogues, platonic	2.00
HEGEL AND HUSSERL (53)	hegel, spirit, phenomenology, absolute, consciousness	1.96
HUME (55)	hume, descartes, skepticism, cartesian, humannature	1.85
PHILOSOPHY OF RELIGION (15)	god, evil, augustine, kierkegaard, faith	1.76
SPINOZA (23)	essence, substance, espinosa, nature, spinoza	1.35
SCHOPENHAUER (76)	will, love, schopenhauer, world, metaphysics	1.29
ARISTOTLE-Metaphysics (57)	aristotle, aristotelian, perception, senses, cause	1.25
PLOTINUS (73)	soul, death, world, plotinus, one	1.17
PLATO II (14)	dialogue, rhetoric, gorgias, plato, socrates	1.09
MEDIEVAL METAPHYSICS (38)	contemporary, epicurus, ockham, meaning, power	0.61
MYTH AND SACRED (51)	sacred, myth, form, power, religion	0.60
EPISTEMOLOGY AND PHILOSOPHY OF SCIENCE		**13.98**
MODERN EPISTEMOLOGY (8)	knowledge, science, method, metaphysics, nature	1.97
PSYCHOANALYSIS (67)	freud, psychoanalysis, unconscious, psychology, freudian	1.66
SCIENTIFIC RATIONALITY (63)	science, scientific**, kuhn, scientific*, scientific	1.51
PHILOSOPHY OF LOGIC (26)	logic, mathematics, frege, semantics, logical	1.49
PHILOSOPHY OF HISTORY (66)	history, historical, historic, progress, historic	1.49
PARACONSISTENT LOGIC (22)	logic, logics, systems, semantics, calculus	1.38
ANALYTIC EPISTEMOLOGY (35)	justification, belief, beliefs, knowledge, epistemology	1.20
PHILOSOPHY OF BIOLOGY (17)	epistemology, popper, quine, epistemological**, epistemological	1.16
PHILOSOPHY OF PHYSICS (31)	structure, objects, structures, world, meaning	0.93
PHILOSOPHY OF MATHEMATICS (16)	functions, function, class, set, numbers	0.65
MODELS AND REPRESENTATION (44)	kripke, model, semantic, meaning, semantics	0.54
PHENOMENOLOGY AND HERMENEUTICS		**12.74**
HEIDEGGER (71)	heidegger, time, meaning, dasein, martin	3.02
LEVINAS (42)	subject, other, subjectivity, alterity, levinas	1.57
SARTRE (77)	consciousness, sartre, world, nothing, reality	1.54
MERLEAU-PONTY (29)	experience, world, merleauponty, perception, body	1.51
EXISTENTIALISM (13)	life, meaning, existence, humanlife, self	1.44
INTENTIONALITY (28)	object, representation, psychology, husserl, thing	1.28
GADAMER (5)	tradition, hermeneutics, gadamer, understanding, philosophicalhermeneutics	1.11
RICOEUR (62)	ricoeur, self, paul, hermeneutics, narrative	0.75
POSTMODERNITY (79)	images, vattimo, postmodernity, society, world	0.52

PHILOSOPHY OF MIND AND LANGUAGE		**10.12**
WITTGENSTEIN (64)	language, wittgenstein, propositions, meaning, tractatus	2.04
CONSCIOUSNESS (41)	mind, argument, arguments, mental, mental[*]	1.39
BERGSON (27)	time, space, bergson, memory, intuition	1.38
THEORIES OF TRUTH (70)	truth, rorty, sense, true, meaning	1.27
MENTAL STATES (78)	body, mind, emotions, cognition, perception	1.10
COGNITIVE SCIENCE (72)	model, models, peirce, information, processes	0.98
MENTAL REPRESENTATION (74)	systems, system, mind, searle, machines	0.75
IMAGINATION (58)	imagination, imaginary, bachelard, image, violence	0.61
PERSONAL IDENTITY (40)	identity, person, values, personal identity, scheler	0.60
ETHICS		**9.95**
NIETZSCHE-Ethics (19)	nietzsche, values, moral, nihilism, will	2.41
KANT-Ethics (6)	moral, kant, morality, grounding, reason	1.96
ARISTOTLE-Ethics (59)	happiness, virtue, aristotle, ethics, good	1.70
MORAL RESPONSIBILITY (52)	ethics, ethical, responsibility, ethics[*], jonas	1.58
BIOETHICS (34)	principle, singer, mill, animals, ethics	0.92
METAETHICS (43)	moral, morals, morality, moraljudgements, ethics	0.89
VIRTUE ETHICS (7)	virtues, macintyre, moral, ethics, tradition	0.49
AESTHETICS		**9.17**
PHILOSOPHY OF ART (37)	art, aesthetics, aesthetic, artistic, arts	1.63
DELEUZE & GUATTARI (11)	deleuze, gilles, guattari, image, immanence	1.27
NIETZSCHE AND THE GREEKS (61)	nietzsche, tragedy, tragic, tragic[**], birth	1.27
BENJAMIN (54)	benjamin, walter, experience, history, modernity	1.18
PHILOSOPHY OF LITERATURE (4)	translation, derrida, novel, writing, deconstruction	1.11
KANT-Aesthetics (60)	judgment, beautiful, aesthetics, beauty, sublime	1.05
NIETZSCHE-Aesthetics (36)	music, musical, nietzsche, wagner, culture	1.00
PHILOSOPHY OF MODERN ART (24)	painting, movement, theater, genre, galileo	0.64

Notes:
* Gender flexion in Portuguese (classified as feminine).
** Plural flexion in Portuguese.

When reviewing the results, the first pattern that stands out is the substantial presence of philosophers' names. Among the 74 topics, only 17 do not include the name of a philosopher among their most likely words. Further confirmation of this trend is found when examining the top three most representative titles under each topic: of 216 titles, 158 explicitly mention the name of a philosopher (see Appendix D). Compared to previous studies in philosophy, the pattern in Brazilian monographs differs significantly from Anglophone philosophy. Malaterre et al. (2019) and Byastronowski et al. (2022) do not assign topics with philosophers' names, and Weatherson (2022) uses such labels for only four topics (Hume, Kant, Marx, and

Heidegger & Husserl). In Byastronowski' study, only four out of 91 topics explicitly mention a philosopher's name within the top-5 terms, while in Weatherson's study this occurs in 32 out of 90 topics.

Within the 57 topics featuring philosophers' names, only one includes the name of a woman among the top five terms, namely, Hannah Arendt (48). Expanding this analysis to the top ten, no other woman philosopher's name emerges. Only when examining the titles of the most representative monographs do Nancy Fraser, Maria Zambrano, Christine Korsgaard, and the psychoanalyst Melanie Klein appear. Even so, it is clear that the topics most interest to the Brazilian academic philosophy community primarily center around the works and issues developed by male philosophers.

To the best of our knowledge, this is the first empirical evidence that Brazilian philosophy places an extremely high emphasis on the study of authors, instead of themes or problems — a widely popular and shared opinion within the academic community. Therefore, the typical monograph consists of interpretative hypotheses and reconstruction of concepts or arguments related to a specific author and their philosophical system or works.

This common institutional self-understanding has historical roots. It is well-known that amidst the expansion and professionalization of universities (in the 1960s and 1970s, as we saw above), Brazilian philosophy departments hosted French intellectuals and facilitated the exchange of their professors and students to French universities. This led to the establishment of what philosopher Michel Foucault referred to as a "*Département Français d'Outre Mer* [*French Overseas Department*]" at the University of São Paulo (USP) (*apud* Arantes 1994). During this

crucial period, Brazilian academic philosophy was heavily influenced by the French structuralist method of scholars like Martial Guéroult and Victor Goldschmidt (Pereira 1999; Fleck 2019; Arantes 2021; Domingues 2017; Sampaio 2023). This style of academic training, which soon spread to other influential philosophy departments throughout the country, was then seen as an "antidote" against the current academic profile, perceived as "hasty readings of the latest European fashion and of intuitions and [personal] 'experiences'" (Arantes 2021, 19-20). Consequently, professional philosophy in Brazil developed by requiring a strong emphasis on the thorough examination and understanding of the internal logic of specific philosophers or canonical works. The "extremely rigorous" study of the history of Western philosophy was advocated as the sole legitimate approach to engaging in philosophical inquiry. In Arantes' words, Brazilian philosophy students presented themselves not as "philosophers", but as "technicians of philosophical intelligence" (2021, 22).

While this represents a specific and regional episode in the history of Brazilian philosophy, it wielded a profound impact on the production of monographs in philosophy graduate programs nationwide. Approximately 56% (6,710) of all the monographs in our corpus were concentrated in institutions of the Southeast region of Brazil. Encompassing the states of São Paulo, Rio de Janeiro, Minas Gerais, and Espírito Santo, the Southeast is recognized as the most developed region, contributing approximately 55% to Brazil's GDP and holding the highest population density in the country. It is home to traditional universities, such as USP, UFRJ (Federal University of Rio de Janeiro) and UNICAMP (State University of Campinas). To put it into perspective, these three universities collectively account for 22.5% of the total number of philosophy monographs, with USP alone accounting for almost 10%. The region with the second largest number of works is the South, comprising

25% (2,990). The other regions (North, Northeast, and Central-West) account for the remaining 20%.

The individual topic with the highest average prevalence is dedicated to Heidegger (71), accounting for around 3.02%. However, when we broaden our scope to include all topics directly related to a specific philosopher, Kant takes the top spot with 5.77%, the most extensively studied philosopher in graduate programs, with monographs on metaphysics/epistemology (69), aesthetics (60), and ethics (6). This heightened attention to Kantian philosophy can be explained by a series of endeavors aimed at institutionalizing and promoting academic studies, like the establishment of the Brazilian Kantian Society in 1989, which currently boasts five regional sections, and the launch of the journal *Studia Kantiana,* which launched in 1998.

Applying the same analysis, Nietzsche emerges as the second most extensively researched philosopher, with a cumulative percentage of 5.01%. This includes topics related to ethics (19) and aesthetics (61 and 36). In 1996, toward the beginning of our data collection period, Brazilian academics established the Nietzsche Study Group (GEN), which currently comprises members from ten different graduate programs. They also then launched the journal *Cadernos Nietzsche* and initiated the Nietzsche Colloquium Series, which takes place twice a year in different parts of the country (Marton 2016; Moreira 2018).

A surprising revelation is the notable prominence of critical theory in Brazil. When topics from the first generation of Frankfurt School, featuring Adorno and Horkheimer (3), Benjamin (54), and Marcuse (75), are grouped with topics from the second (25) and third (56) generations, represented by Habermas and Honneth

respectively, we observe an impressive prevalence of 6.02% within the entire corpus of monographs. Historians attribute this phenomenon to the period between 1968 and 1978, when influential leftist intellectuals in the social sciences translated major works into Portuguese and disseminated critical theory in specialized journals as a critique of the military regime (Repa and Terra 2011; Camargo 2012).

In accordance with the methodological section, the process of identifying and interpreting the topics entails the formulation of philosophical categories. These categories represent overarching clusters of topics designed to mitigate information volume and complexity. The categorical classification was coded based on thematic areas within philosophy, leveraging semantic relationships among topics. As illustrated in Table 1, seven distinct categories were delineated.

The most extensive category is Social and Political Philosophy, including eighteen topics and averaging a total prevalence of 23.78%. The majority of the topics align with our main finding, in that they are centered on specific authors. The most studied philosopher in this category (and in the last four years, as shown below in section 3.2) is Michel Foucault (39). As previously mentioned, a significant cluster of topics is related to critical theory, encompassing the three generations of Frankfurt School. There is also a small cluster concerning Anglophone political theory, with topics related to Rawls (68), liberalism (32), and analytical jurisprudence (45). Other topics refer to a variety of philosophers and issues, such as democratic theory (33), human rights (18), Hannah Arendt (48), Eric Weil (50), Giorgio Agamben, and gender studies (9). Finally, four topics on philosophers from the Western canon can be identified, namely Rousseau (12), Hobbes (47), Machiavelli (30), and Marx (49).

Eleven topics explore classic authors from the history of Western philosophy under Metaphysics, the category with the second highest prevalence (17.04%). From ancient philosophy, these topics include discussions related to Plato (65 and 14), Plotinus (73), and Aristotle (57). Representing modern philosophy are topics on Hume (55), Spinoza (23), and Hegel and Husserl (53). There is also one topic on Schopenhauer (76) and three broad topics on the philosophy of religion and medieval metaphysics (15, 38 and 51). Despite this mix of philosophers from different historical periods, they all discuss classical metaphysical problems, addressing notions of substance and human nature, theories of causation and necessity, the existence of God, and the problem of evil.

In contrast, two categories deviate from the pattern described above as they are primarily composed of themes in their content, not specific authors. The first category is Epistemology and Philosophy of Science, which comprises eleven topics with an average prevalence of 13.98%. Four topics coalesce into a cluster on logic and formal sciences, namely philosophy of physics (31), philosophy of mathematics (16), paraconsistent logic (22), and philosophy of logic (26). Other topics are related to specific domains of scientific specialization, such as philosophy of biology (17), philosophy of history (66), and psychoanalysis (67) or the discussion of scientific knowledge itself, like scientific rationality (63) and modern science and epistemology (8). There is also a topic addressing contemporary analytic epistemology (35).

The second category that deviates from specific philosophers is Philosophy of Mind and Language. Concerning philosophy of language, two topics are dedicated to Wittgenstein (64) and to discussions on theories of truth (70). Within the philosophy of mind, a diverse array of topics explores various theories and concepts related to cognitive sciences, such as theories of mental representation, mental states, and

personal identity (78, 72, 74, 40). These four topics are closely linked, reflecting a high proximity to contemporary analytic philosophy of mind. This category also incorporates a topic centered on Bergson (27) and a more unconventional exploration of imagination and Bachelard (58). In total, Philosophy of Mind and Language encompasses nine topics, constituting 10.12% of the overall corpus.

The category Phenomenology and Hermeneutics includes nine topics, making up 12.74% of the total prevalence. The most studied topic within this category, with an average prevalence of 3.02%, is Heidegger (71), especially regarding themes from *Being and Time*. This category encompasses other philosophers from the German phenomenological tradition, including Husserl and Twardowski on intentionality and representation (28) and Gadamer (5). Figures from the French tradition are also present, such as Levinas (42), Sartre (77), Merleau-Ponty (29), and Ricoeur (62). Additionally, there is a topic dedicated to postmodernity with a focus on Vattimo (79) and a broader one on existentialism (13). The emergence of phenomenology as a distinct category highlights the well-established nature of this philosophical field in Brazil. Its reception can be traced back to the 1940's and it is applied across various scientific fields beyond Philosophy, such as Education, Law, Psychology, and Health Sciences.

The category with the fewest topics is Ethics, with only seven. However, it still accounts for 10.23% of the corpus. The most studied topics are on classical philosophers, notably Aristotle (59), Kant (6), and Nietzsche (19). Thematic topics often exhibit a closer relation with contemporary philosophers. For instance, moral responsibility (52) is influenced by Hans Jonas, bioethics (34) has a strong emphasis on Peter Singer's works, and virtue ethics (7) focuses on Alasdair MacIntyre. Additionally, there is a topic dedicated to metaethics and moral judgments (43).

Finally, the Aesthetics category consists of eight topics, representing 9.17% of the total, and exhibits a notable heterogeneity. It covers several subjects, including philosophy of art (37), art criticism with an emphasis on modernity (24), and philosophy of literature, as well as monographs dedicated to the translation of philosophical works (4). Furthermore, it features topics related to specific philosophers, such as Benjamin (54), Kant (60), Nietzsche (61 and 36), and Deleuze & Guattari (11).

3.3 Trends in Monographs Themes over Time

Up to this point, the Brazilian philosophical landscape has been outlined through the prevalence of topics and categories, but it is worth investigating whether this pattern remains stable over time and whether specific trends of growth and decline can be observed. Figure 3 depicts a broad overview of the yearly evolution of the mean prevalence of each of the seven categories within the corpus.
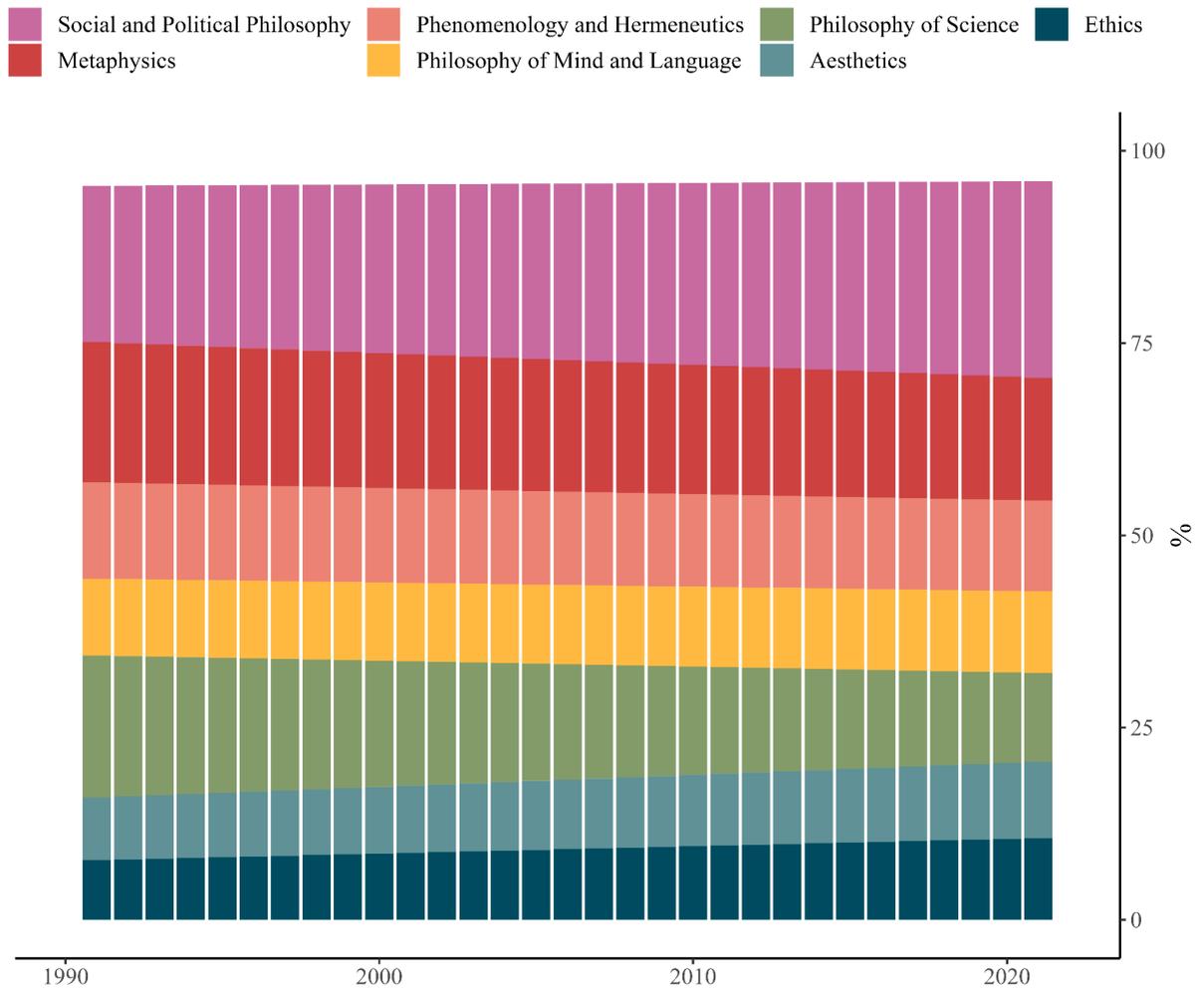
Fig 2. Trends in categories year-by-year (1991-2021).

Since 1991, Social and Political Philosophy has consistently maintained the highest mean annual prevalence. There has been a gradual and sustained increase to this category, which has led it to become the most popular area of research with a prevalence of 25.51%. By comparison, Metaphysics, the second-highest category, comprises 15.81%. Epistemology and Philosophy of Science, initially ranking second with 18.31%, experienced a sharp decline, ending 2021 with a prevalence of 11.66%. Phenomenology and Hermeneutics also declined over the years and toward 2021 accounted for 11.78% of the total corpus. In contrast, Ethics and Aesthetics

demonstrated increasing prevalence, reaching 10.31% and 10.01%, respectively in the last year of our analysis. Philosophy of Mind and Language exhibited stability, maintaining a prevalence of 10%.

Year / Topic	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21
1	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	39	39	39	39
2	67	67	67	67	67	69	67	69	69	69	69	69	69	69	69	69	19	19	19	19	19	39	39	39	39	39	39	71	71	71	71
3	69	69	69	69	69	67	67	67	67	67	67	67	67	19	19	19	69	69	69	39	39	19	19	19	19	19	19	19	19	19	19
4	47	47	47	64	64	64	64	64	64	64	64	64	19	64	64	49	49	49	39	69	69	69	49	49	48	48	48	48	48	48	48
5	64	64	64	47	47	47	47	47	47	49	19	19	64	67	49	64	64	64	49	49	49	49	69	48	33	33	33	33	33	33	33
6	25	25	25	25	25	49	49	49	49	19	49	49	49	49	67	67	53	39	64	64	64	53	33	33	49	49	49	49	49	68	68
7	22	22	22	49	49	25	6	19	19	47	53	53	53	53	53	53	67	53	53	53	53	64	48	69	69	53	53	68	68	49	49
8	63	63	49	22	22	6	6	6	6	53	6	6	6	6	6	6	39	65	65	65	65	33	53	53	53	69	68	53	59	59	59
9	49	49	63	6	6	22	22	25	53	6	47	47	65	65	65	65	65	6	6	33	33	65	64	65	65	65	65	65	65	41	41
10	6	6	6	63	63	53	53	53	25	63	65	65	47	47	55	55	6	67	55	55	55	48	65	64	55	55	69	59	65	53	11

Legend:
Phenomenology and Hermeneutics: Heidegger (71)
Political Philosophy: Habermas (25); Democracy (33); Foucault (39); Hobbes (47); Arendt (48); Marx (49); Rawls (68)
Epistemology and Philosophy of Science: Paraconsistent Logic (22); Scientific Rationality (63); Psychoanalysis (67)
Metaphysics: Hegel (53); Hume (55); Plato I (65); Kant-Metaphysics (69)
Philosophy of Mind and Language: Consciousness (41); Wittgenstein (64)
Ethics: Kant-Ethics (6); Nietzsche-Ethics; (19); Aristotle-Ethics (59)
Aesthetics: Deleuze&Guattari (11)

TABLE 2 Trends of the Top-10 Topics with the Highest Average Prevalence from 1991 to 2021.

Focusing on individual topics allows us to perform a more fine-grained analysis. Table 2 displays the historical development of the top-10 topics with the highest average prevalence for each year (see Appendix E of the Supplementary Material to visualize the effect of the Time covariate for all topics).

The first thing to note is that the topic on Heidegger (71) dominated almost three decades of philosophical research, despite being the only topic in the Phenomenology and Hermeneutics category to feature in the top-10. Ranking 1st since 1991, it was only surpassed in 2017, remaining in 2nd place until 2021. This same level of stability over time is not observed in any other topic. The topic on Kant-Metaphysics (69), for instance, consistently occupied the second and third

positions until 2009, after which it became less studied,making its last appearance in 2017 while ranking 10th. The topic on Psychoanalysis (67) began in 2nd place but quickly declined from 2004 to 2008. Hobbes (47) held the 4th place in 1991, but saw a sharp decline between 1999 and 2004. Last, the topic on Wittgenstein (64), which ranked 5th in 1991, declined since 2008, making its last appearance in 2014.

Several topics have also risen over these thirty years. The topic on Foucault (39), currently the most studied, first appeared in 2007 and steadily climbed to claim the top position in 2018. The topic on Nietzschean ethics (19) made its debut in 1996 in 10th position and, after continuous growth, alternated between 2nd and 3rd position from 2004 onwards. The topic on Arendt (48) entered the top-10 in 2012 and soon after secured the 4th position in 2015. The topic on theories of democracy (33) started gaining more attention in 2011 and reached 5th place in 2017. The topic on Rawls (68) has the same pattern, rapidly ascending to the top-10 in 2017 and currently standing in 6th place. The topic related to Marx (49) has a curious trajectory: it started 1991 in 9th position, increasing to 5th in 2000 and 4th from 2006 to 2008 before it started to decline again until reaching the 7th position in 2021.

It is interesting to compare the first decade of our study to the last. Between 1991-2000, the Brazilian academic philosophical landscape exhibited a more balanced distribution among categories. With the exception of Aesthetics, which only appears in 2021, every category is represented in this decade. Topics related to Heidegger (71), Psychoanalysis (67), Kantian metaphysics (69), Wittgenstein (64), and Hobbes (47) dominated. Ethics was in last place with a single topic on Kantian ethics (6). Nonetheless, a discernible shift is evident in the last decade (2011-2021), with heightened attention toward topics in the Social and Political Philosophy category. Foucault stands first, followed by a cluster of four topics — Arendt (48),

Democracy (33), Rawls (68), and Marx (49) —, sequentially positioned after Heidegger (71) and Nietzsche (19). The last remaining topic from the Epistemology and Philosophy of Science category, Psychoanalysis (67), left the top-10 in 2008. The Metaphysics category acquired prominence, with Kant (69), Hume (55), Hegel and Husserl (53) and Plato (65) ranging from middle to end positions, until its disappearance in 2020. Philosophy of Mind and Language rises once again with a topic on aspects of consciousness (41). Thus, the only two categories consolidated in the top-10 are Social and Political Philosophy and Metaphysics due to the diversity of their topics and their stable presence. The other five categories either appear sporadically or are represented by a sole specific topic.

3.4 | Trends in monographs themes by supervisor's gender

As described in section 3.1, of all the monographs analyzed in this study, only 30% were authored and 20% supervised by women, demonstrating an extremely unequal scenario in Brazilian philosophy. In this final section, the effect of the supervisor's gender on the likelihood of a monograph being related to certain topics and categories will be discussed. The primary objective in introducing this covariate in the STM analysis is to investigate whether academic philosophy exhibits a consistent inequality across all research areas. Figure 4 illustrates a visualization of all topics where the effect of the covariate is statistically significant (see Appendix E for a comprehensive figure with all topics).
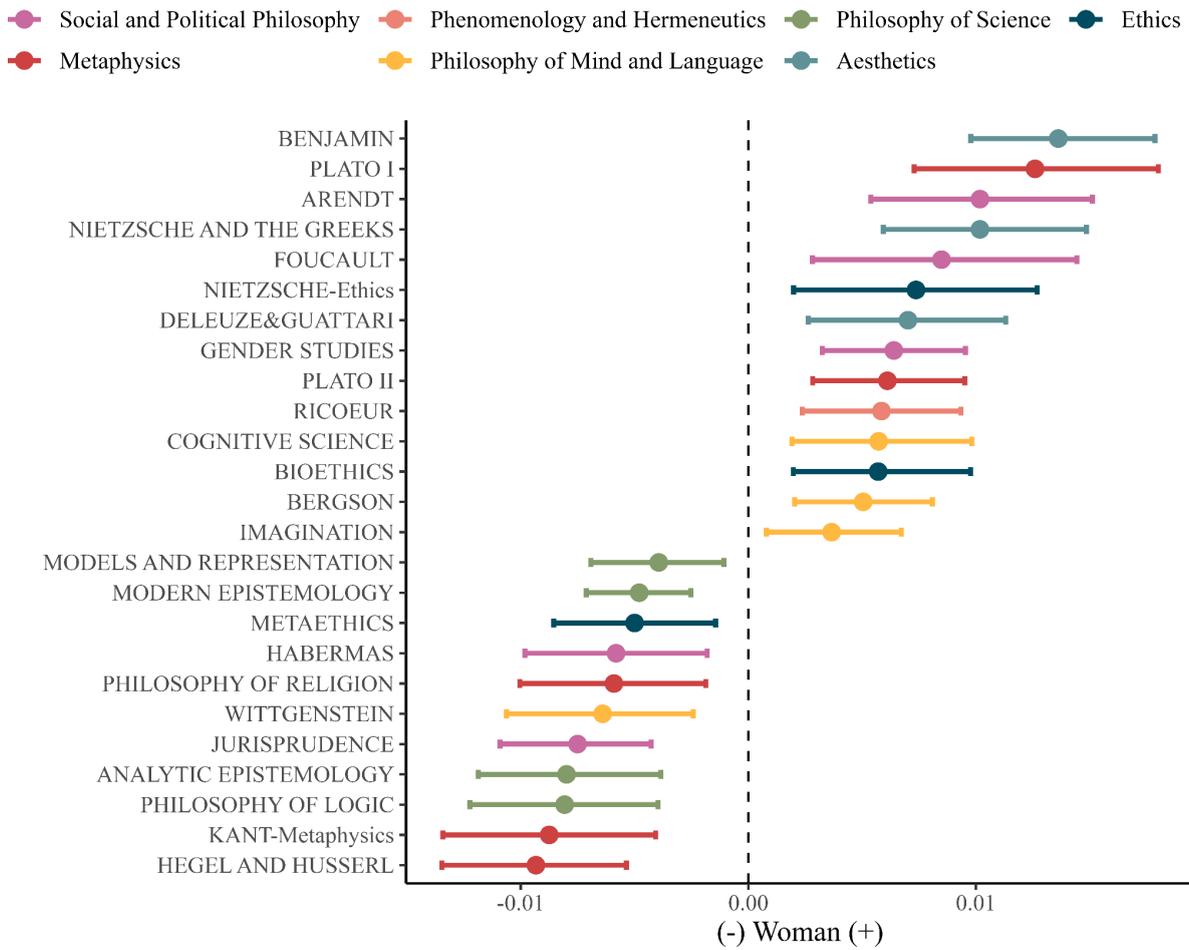
Fig 3. Graphical display of the difference in topical prevalence by supervisor's gender (man or woman) (p ≤ 0.01). Dots represent point estimates for the difference. The lines represent the confidence intervals.

The least favorable topics associated with women are related to philosophers Hegel and Husserl (53) and Kant (69), all grouped under the category of Metaphysics. Another noteworthy pattern emerges within Epistemology and Philosophy of Science. All topics belonging to this domain are on the left side, including the four statistically significant ones, namely Analytic Epistemology (35), Philosophy of Logic (26), Models and Representation (44), and Modern Epistemology (8). This suggests that men are more likely to supervise monographs on this entire area. The categories Philosophy of Mind and Language and Ethics

have one topic each, specifically on Wittgenstein (64) and Metaethics (43). Finally, two topics fall under Social and Political Philosophy. Jurisprudence (45) extensively explores the debate between Hart and Dworkin on principles and rules, whereas the second focuses on Habermas (25) and his theory of communicative action.

The right side of the graph displays a different scenario. Almost all of the topics on Aesthetics have a positive association with women supervisors (the only exception being the topic on Kantian aesthetics). They are related to Walter Benjamin's notions of experience and art in modernity (54), the relationship between Nietzsche and the Greeks (61), and Deleuze & Guattari's works (11). Both topics on Plato (65 and 14) also exhibit a high association, indicating that the academic research on Platonism in Brazil is more concentrated among women. A similar scenario is observed regarding the research on Nietzsche, since the topic on Nietzschean ethics (19) also is more likely to be supervised by women. Additionally, three diverse topics in Social and Political Philosophy are present, namely Arendt (48), Foucault (39), and Gender Studies (9).

At first glance, the primary observation derived from analyzing Figure 4 is the contrast between the categories of Epistemology and Philosophy of Science and Aesthetics, a stereotypical pattern perceived across academic philosophy communities in other countries (Haslanger 2008) as well. It appears challenging to discern another specific pattern within a category or a group of related topics that would elucidate the gender gap in certain areas of research, making it difficult to formulate a more precise hypothesis. Nonetheless, this analysis enables the identification of topics that are more likely to be supervised by women researchers for subsequent comparisons over time and with other institutions and research groups globally.

4 CONCLUSION

Unsupervised text mining techniques offer valuable insights for summarizing large corpus databases by enabling a description of discipline structure and the examination of common sociological perceptions within the community. The application of Structural Topic Modeling to the corpus of monographs from philosophy graduate programs in Brazil provided a comprehensive overview of the academic landscape. The resulting model delineated 74 key research topics and exposed trends over time and gender. Notably, among the ten topics with the highest average prevalence, philosophers from the Western canon such as Plato, Aristotle, Saint Augustine, Hume, Kant, Hegel, and Marx were identified as most studied, alongside contemporary philosophers like Heidegger, Wittgenstein, Arendt, Foucault, and members of the Frankfurt School. The typical profile of a philosophy monograph in Brazil appears to involve a research on a specific philosopher and their philosophical system, a structure influenced significantly by the impact of French structuralists in the recent history of Brazilian philosophy graduate programs. Over the three decades investigated in this research, the study of Heidegger maintained consistent attention, while others, including topics related to psychoanalysis, Hobbes, Kant, and Wittgenstein, have experienced a steady decline. Nonetheless, the past decade has seen a noteworthy shift towards heightened interest in themes associated with Social and Political Philosophy, the dominant category since 1991. The substantial focus on topics covering Foucault, Arendt, theories of democracy, and Rawls, ranking among the top-10 in 2021 significantly to this trend. Finally, this study has broken new ground by incorporating a discussion of gender in STM analysis within Philosophy. The examination of the impact of the supervisor's gender

on specific topics and categories provides a more fine-grained description of the gender inequality problem in Brazilian Philosophy, and has demonstrated how research areas covering Aesthetics and the works of philosophers such as Plato, Nietzsche, Arendt, and Foucault are found to be more strongly associated with women.

Finally, this study has some limitations worth considering. Regarding the methodology, the automated gender label considered only binary categories (woman or man), making it impossible to implement a more diverse discussion on gender. Restrictions also apply to variables such as race or economic class, which could not be included. Brazilian philosophy still lacks a more comprehensive study on these issues (Moreira 2023). Second, the workflow for implementing text analysis requires an iterative model of research where data analysis and theory refinement are intertwined (Grimmer 2022, 41). This research process has thus been influenced by the researcher to optimize the model and its results. To mitigate this subjective influence, all methodological procedures were documented in this paper and are available in a public repository. Third, STM presupposes a bag of words model for analyzing text data, which means that the co-occurrence of words in a document is all that counts and that each word has a unique meaning. More refined and dense representations of words and arguments, the day-to-day of philosophy academics, were not captured in this analysis. Last, this study is restricted to abstracts from monographs, which inherently imposes a significantly limited word count. In this regard, for a more refined and comprehensive STM analysis of Brazilian academic philosophy, it would be worth building a corpus comprising complete research papers published by Brazilian scholars.

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Supplementary Material for

Philosophical Research in Brazil:

A Structural Topic Modeling Approach with a focus on Temporal and Gender Trends

Contents:

APPENDIX A

FIT STATISTICS TO CHOOSE A TOPIC MODEL

In an ideal scenario, when choosing the number of topics (K) for a topic modeling analysis, one should aim for a balance where there are fewer residuals and higher values for the lower bound, semantic coherence, and held-out likelihood. This would indicate that the model has successfully identified meaningful topics, optimized its parameters, and can generalize well to unseen data. Semantic coherence essentially refers to the extent to which words associated with a specific topic tend to co-occur within documents assigned to that particular topic. In other words, it measures how well the words within a topic are related and tend to appear together in relevant documents. The lower bound is a metric that signifies the level of convergence achieved by a specific computational model or algorithm in the context of topic modeling. It indicates how well the model has optimized its parameters to capture the underlying patterns in the data. Held-out likelihood is a measure of the model's performance in terms of generalization. It assesses how well the final model is likely to perform on unseen data or a different set of documents. Residuals, in this context, refer to the remaining unexplained variance or errors in the topic modeling process. They indicate the spread or dispersion of these errors given the number of topics established. Above, the interval between 70 to 85 models appears to be the most

appropriate.
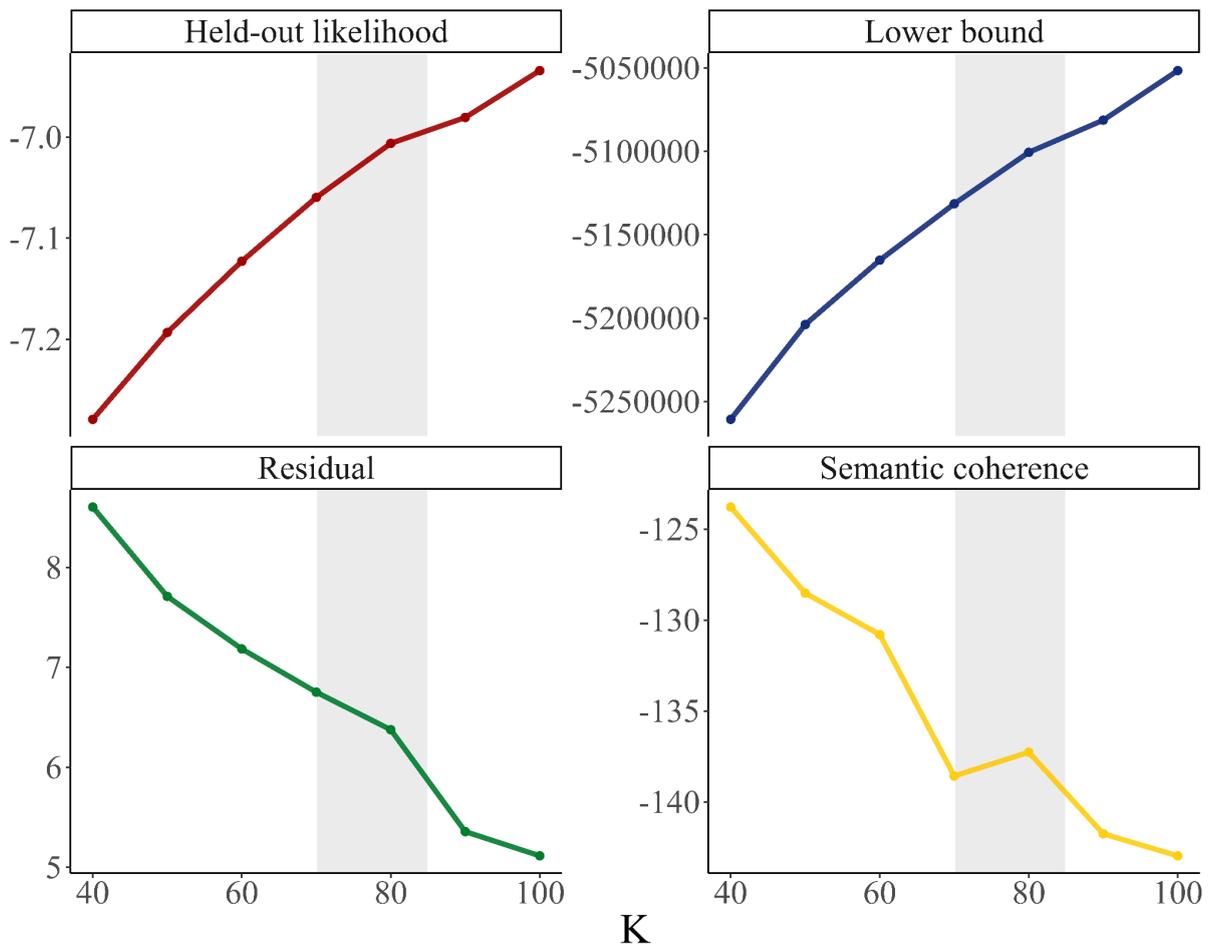
Fig. A Fit statistics to compare solutions for topics spanning 40-100 (K).

APPENDIX B

UMAP REPRESENTATION

As this categorical classification is based on the expertise of researchers in the field, it is essential to evaluate its efficacy. To achieve this, as detailed in the Methodological Section, we employed the UMAP algorithm to create a visual representation of the classification, depicted in Figure 2.This graph illustrates the topic-document relationship, with each point on the graph representing a document within the *corpus*. The colors denote the categories to which each document belongs, sorted according to its most prevalent topic.

The projection enables us to infer that there is coherence in the categories employed, as the documents are grouped together in a cohesive manner. The spatial boundaries are intuitively plausible concerning the areas within philosophy. Documents categorized as Epistemology and Philosophy of Science are situated closer to Philosophy of Mind and Language. Conversely, documents labeled as belonging to Social and Political Philosophy, Ethics, and Aesthetics are positioned further away. In the intermediary position between these two 'continents' are Phenomenology and Hermeneutics and Metaphysics.
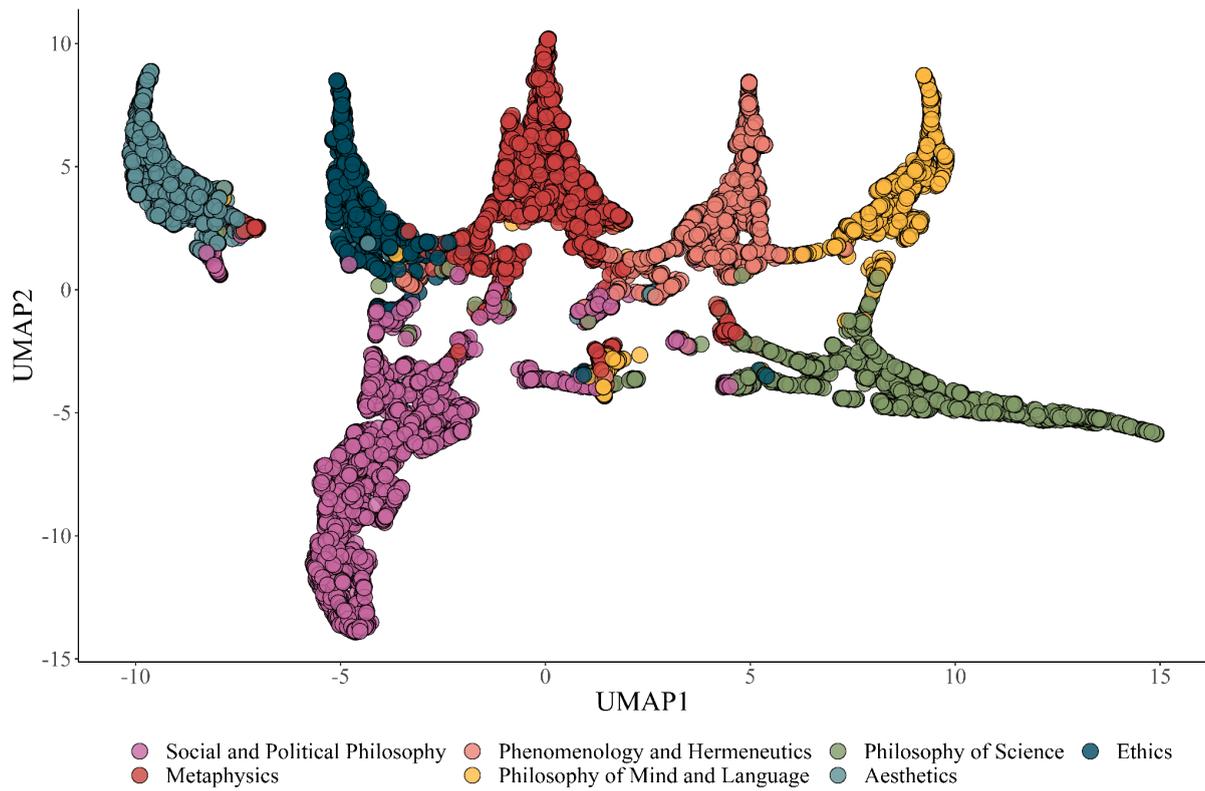
Fig. B UMAP Representation. Each point in the graphic represents one monograph sorted according to the topic-category classification.

APPENDIX C
TOP TERMS FOR EACH TOPIC

■ Social and Political Philosophy
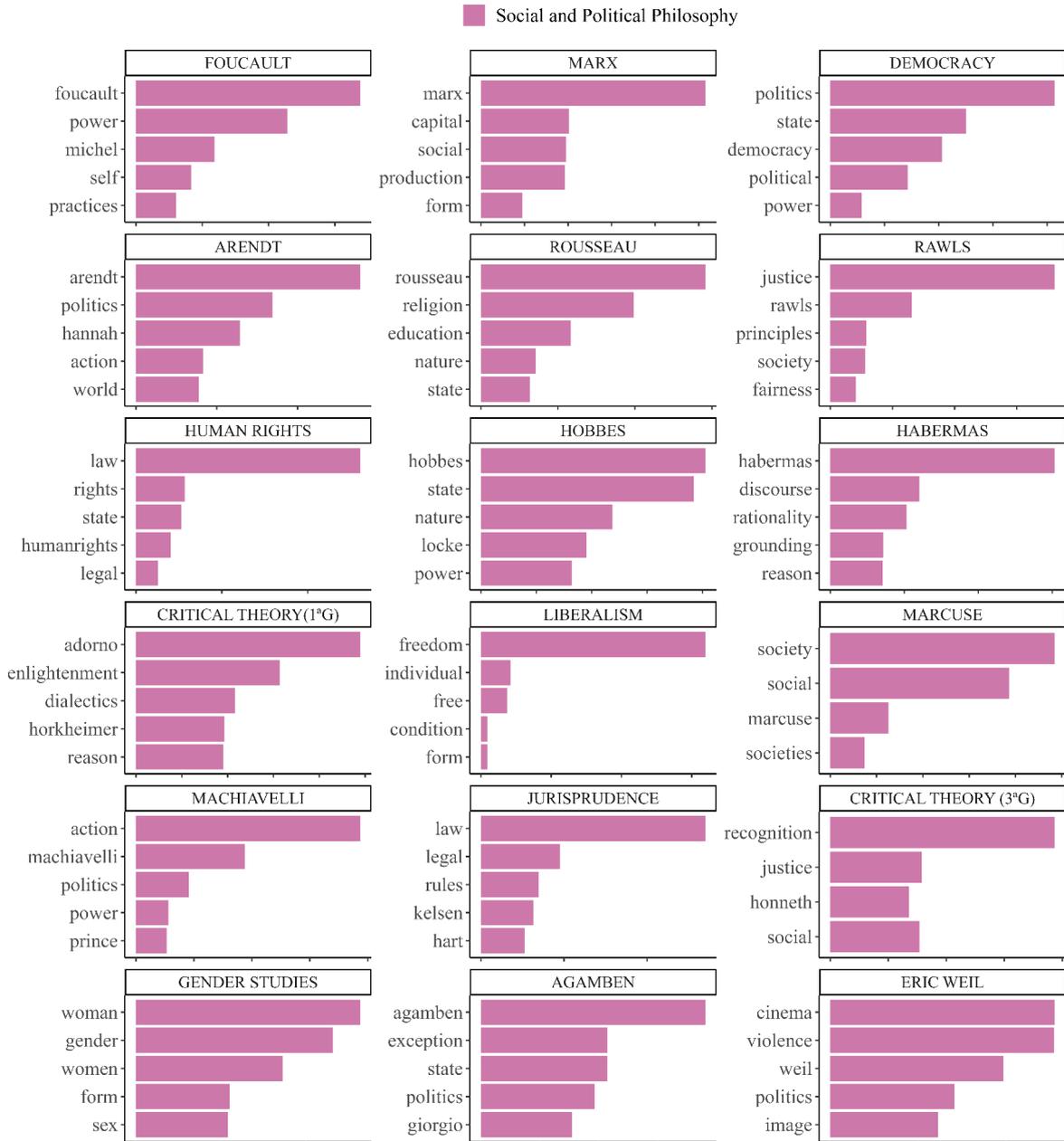
Fig.C.1 Top terms in each research topic sorted by Category (Social and Political Philosophy)
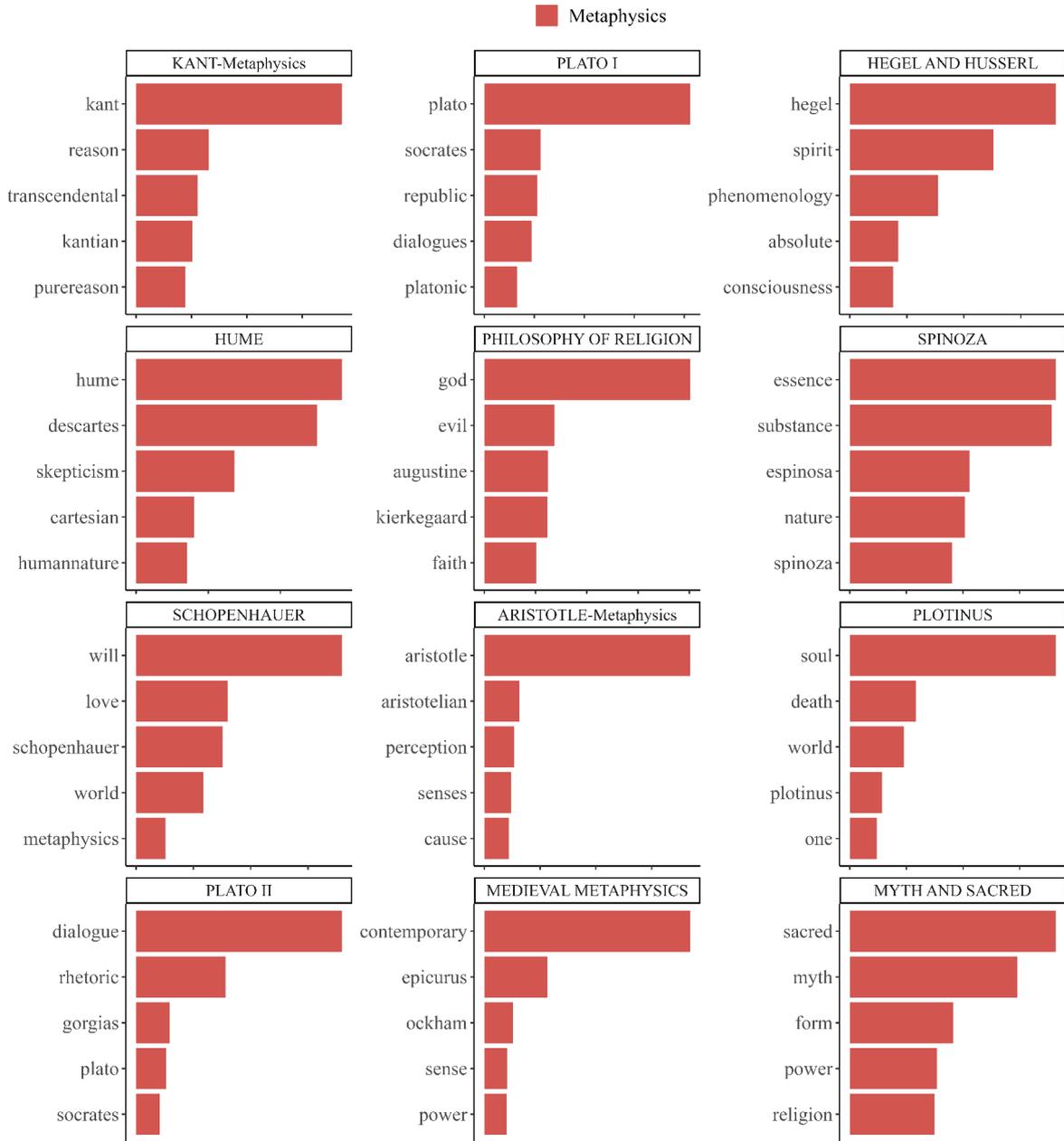
Fig.C.2 Top terms in each research topic sorted by Category (Metaphysics)
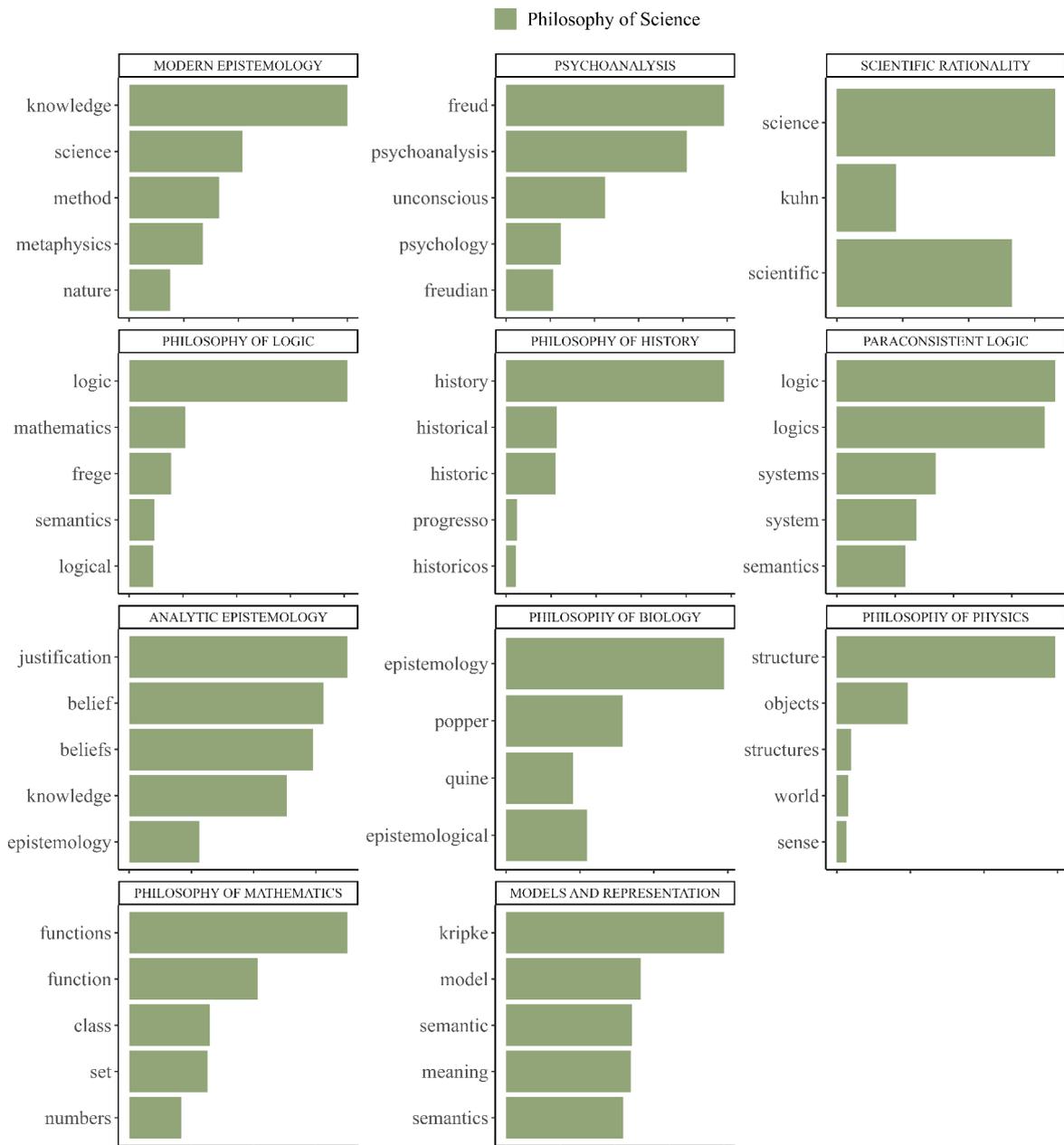
Fig.C.3 Top terms in each research topic sorted by Category (Epistemology and Philosophy of Science).

Phenomenology and Hermeneutics

Fig.C.4 Top terms in each research topic sorted by Category (Phenomenology and Hermeneutics).
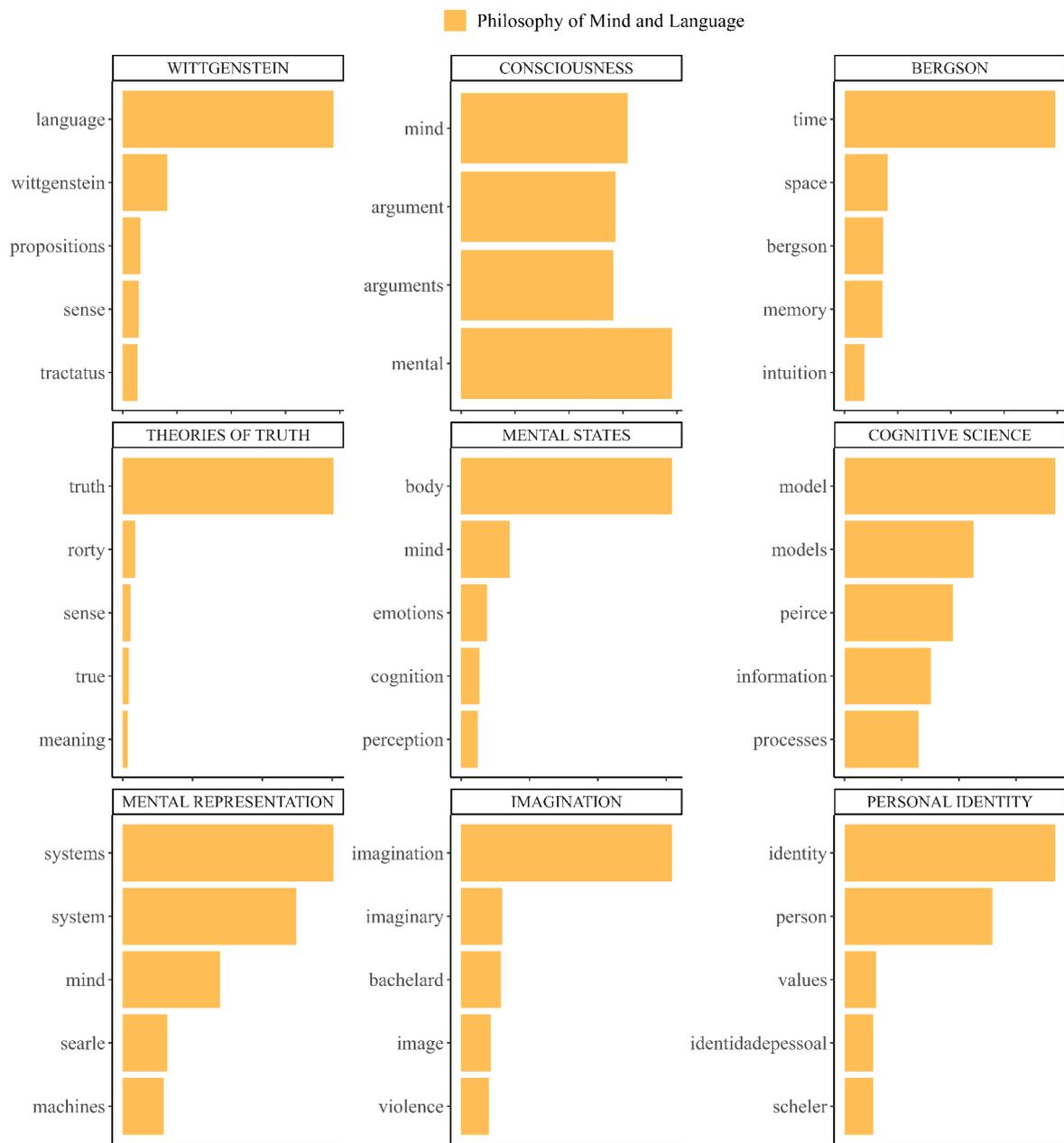
Fig.C.5 Top terms in each research topic sorted by Category (Philosophy of Mind and Language)
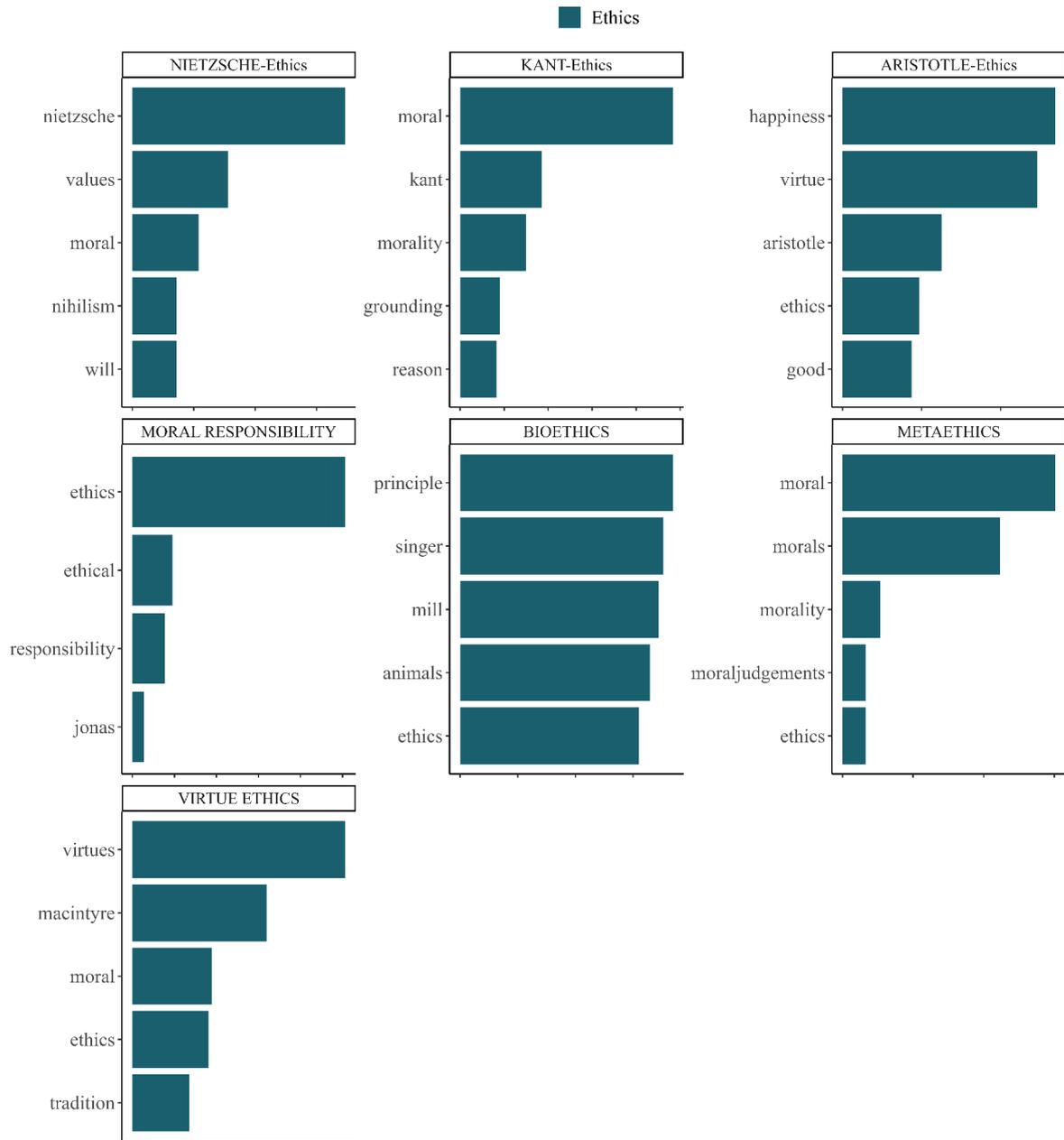
Fig.C.6 Top terms in each research topic sorted by Category (Ethics)
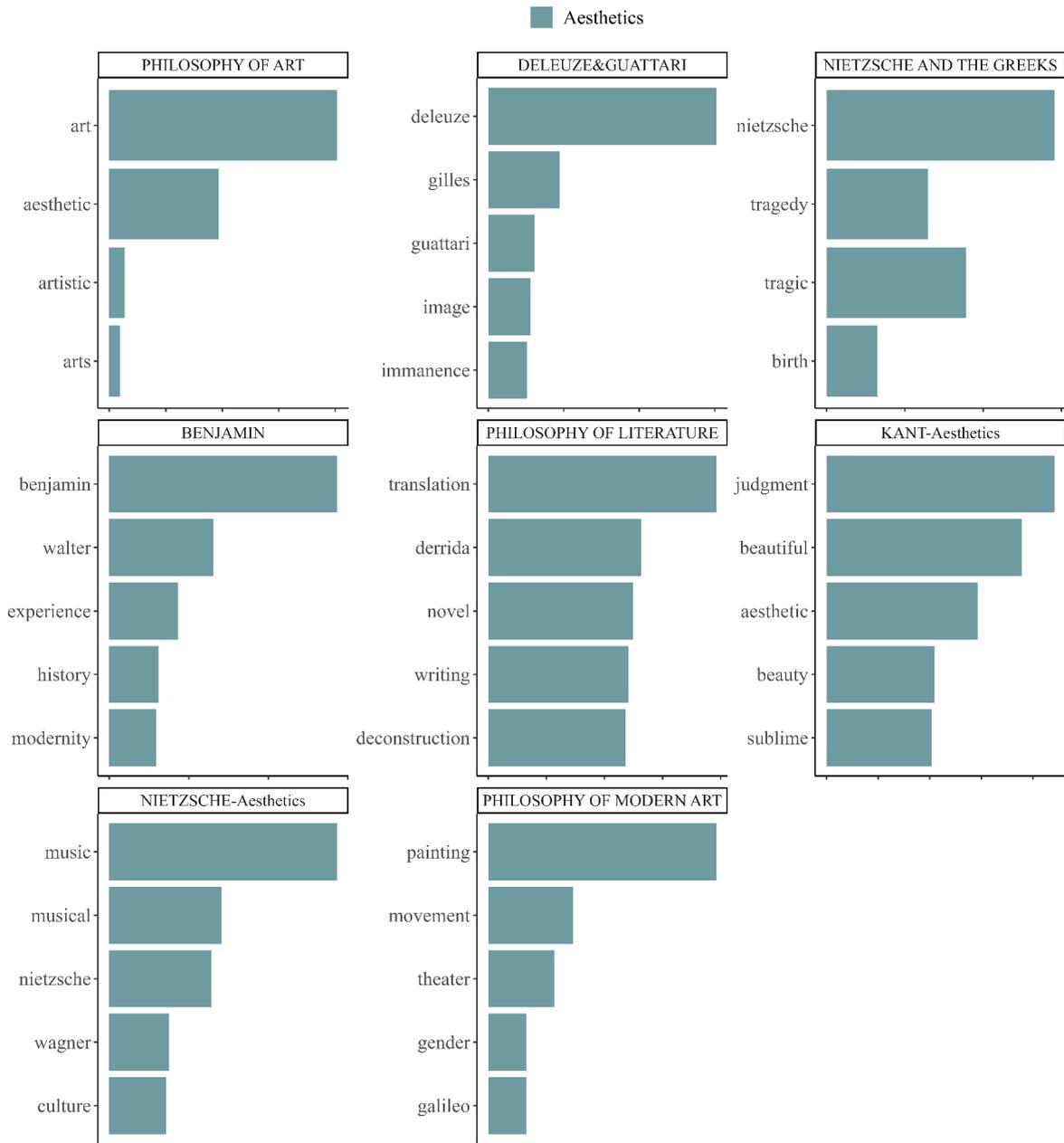
Fig.C.7 Top terms in each research topic sorted by Category (Aesthetics)

MOST REPRESENTATIVE MONOGRAPHS FOR EACH TOPIC

Label (Topic)	The Top-3 Most Associated Monographs for Each Topic
SOCIAL AND POLITICAL PHILOSOPHY	
FOUCAULT (39)	– The Archaeology of the Disciplinary Power Apparatus based on a Genealogy of Power in Michel Foucault's "Surveillance and Punishment" – Discourse as an Articulating Element between Archaeology and Genealogy – School Devices and Childhood: A Foucaultian Study on "Write-readings [*Escrileituras*]"
MARX (49)	- The Social Metabolism of Emancipation: Marx and the Productive Forces - The Mystery of the Real: Capital and Wage Labor - Labor as a Fundamental Structure of the Social Being in the Ontology of György Lukács
DEMOCRACY (33)	- The Paradox of Constitutional Democracy and the Tension between Law and Politics in Contemporary Political Philosophy - The Social State of Equality and the Democratic Political Regime in Alexis de Tocqueville - Representative Democracy: Consensus and Conflict in J. S. Mill
ARENDT (48)	- The Formation of Ethical Judgments in Cyberspaces of Human Relations under the Perspective of Hannah Arendt's Political Understanding - We, Humans: Plurality in "The Human Condition" - Hannah Arendt: Legitimacy and Politics
ROUSSEAU (12)	- Rousseau's Case: Aspects of Rousseau's Condemnation in Geneva - The Fault of Reason: the Failure of Reason in Jean-Jacques Rousseau's "Lettre à D'Alembert sur le Théâtre Français" - Corruption and Perfectibility: The Question in Jean-Jacques Rousseau
RAWLS (68)	- Justice as Fairness: A Political Conception of Justice in Rawls - The Question of Stability in John Rawl's Theory of Justice - John Rawls: A Theory of Justice and Liberalism

HUMAN RIGHTS (18)	- The Cosmopolitan View: The Relevance of the Kantian Proposal for the Perpetual Peace
	- Peace, War and Intervention on Kant's Thought: Possibilities and Limits of the Use of Force in International Law
	- Dignity of the Human Person: A Concept within the Framework of Fundamental Rights in the Brazilian Federal Constitution and Its Contrast with Supreme Federal Court Decisions
HOBBES (47)	- The Struggle and Limits of the Sovereign After the Pact
	- The Concept of Obligation in Hobbes
	- Opinion and Civil Obedience in Hobbes' Philosophy
HABERMAS (25)	- The Theory of Habermasian Rationality and Its Implication for Critical Social Theory
	- The Category of Public Sphere in Jürgen Habermas
	- The Public Use of Reason as a Procedure: Pluralism, Discourse, and Democracy in Habermas
CRITICAL THEORY - 1stG (3)	- On the Concept of Sacrifice in the Dialectic of Enlightenment
	- Emancipatory Formation in Adorno and the Provisional Primacy of Resistance over Adaptation in the Educational Context
	- The Paradox of Reason in the Dialectic of Enlightenment
LIBERALISM (32)	- Two Approaches on Freedom: Isaiah Berlin's 'Two Concepts of Liberty' and Mikhail Bakunin from 1866 until his Late Years
	- A Basic Income Solves the Issue of Poverty? Amartya Sen, Philippe Van Parijs, and Contemporary Scarcity
	- Poverty and Privation: Amartya Sen's Political Thought for the Construction of a Democratic Society
MARCUSE (75)	- Assumptions and Implications of the Concept of Race in the Dawn of the 21st Century according to Achille Mbembe
	- The Concept of Repressive Desublimation in Herbert Marcuse's Critical Theory
	- The New Forms of Control in Herbert Marcuse's 'One-Dimensional Man'
MACHIAVELLI (30)	- The Informational Relationship: An Alternative to the Causal Paradigm in Explaining Action
	- Machiavelli's Concept of Stato: Constituent Elements of State Modernity
	- Considerations on Machiavelli's Politics based on Human Nature
JURISPRUDENCE (45)	- The Question of Legal Rationality in Hart and Dworkin
	- Hart's Legal Positivism and the Critiques of the Imperative Theory of Law
	- The Methodology in John Finnis' Theory of Natural Law: Practical Purpose, the Central Case of Law, and the Critique of the Neutrality Thesis
CRITICAL THEORY - 3stG (56)	- Justice based on Absurdity and Revolt in Albert Camus
	- Economy, Culture, and Normativity: Nancy Fraser and Axel Honneth's Debate on Redistribution and Recognition
	- The Struggle for Recognition in Honneth: Perspectives of a Social Philosophy

GENDER STUDIES (9)	- Breaking Cycles of Revenge
	- The Envy in Freud and Melanie Klein: The Way of the Concept
	- The Culture of New Museums: Architecture and Aesthetics in Contemporary Contexts
AGAMBEN (20)	- The Power of Order and The Order of Power in Carl Schmitt
	- What remains of the Identity between Biopolitcs and Thanatopolitics in Giorgio Agamben
	- State of Extinction: Essay on Speciesism and Biopolitics
ERIC WEIL (50)	- Empedocle's Poem: A Renewal of the Theory of the Cosmic Cycle
	- Political Action According to Eric Weil
	- Radical Evil as Violence in Eric Weil

METAPHYSICS

KANT-Metaphysics (69)	- The Problem of the Unity of Reason in Kant
	- The Antinomy of the Teleological Faculty of Judgment in Kant's Third Critique
	- The Necessity of Transcendental Ideas for Kant's System
PLATO I (65)	- About Dreams in Platonic Philosophy
	- Construction and Critique of the Theory of Ideas in Plato's Philosophy: From the Middle Dialogues to the First Part of the Parmenides
	- Plato's 'Republic': Relation among Books I, II, III, IV e VIII
HEGEL and HUSSERL (53)	- Intersubjectivity in Husserl's 'Cartesian Meditations'
	- Husserl and the Limits of Phenomenological Reduction in Ideas I
	- The Concept of 'Aufhebung' in Hegel: An Inquiry into the Doctrine of Being in the 'Science of Logic' and the 'Encyclopedia'
HUME (55)	- Perception, Belief, and the External World in Hume
	- The Problem of Miracles in Hume
	- Naturalization of Cause-and-Effect Relationships in the Philosophy of David Hume
PHILOSOPHY OF RELIGION (15)	- The Concept of Participation in John Scotus Eriugena
	- Pascal and the Modes of Reason: An Interpretation of the Concept of God and Jesus Christ in the 'Thoughts'
	- Inquietum Cor: The Restlessness of the Human Being
SPINOZA (23)	- Perseverance, Conservation, and Destruction: The Status of Modal Essence in Spinoza's Ethics
	- Human Gender, Individuality, and Nature in Ludwig Feuerbach
	- Infinity, Immanence, an Transcendence in Medieval Jewish Philosophy: Hasdai Crescas

SCHOPENHAUER (76)	- Redemption and Asceticism in the Christian Myth according to Arthur Schopenhauer
	- The Book VIII of Augustine of Hippo's 'Confessions' according to the Notions of Caritas and Cupiditas
	- The Concepts of Representation in Schopenhauer
ARISTOTLE-Metaphysics (57)	- A Unnoticed Difference between 'Element' and 'Material Cause' in Aristotle's Metaphysics
	- Organic Constitution in Aristotle: Natural Substance to Its Highest Degree
	- Aristotle's Perception of Vowel Sounds
PLOTINUS (73)	- The Birth of God in the Soul: Master Eckhart's Fundamental Mysticism in Sermon 101
	- Images in Mirrors: The Status of the Sensible Multiplicity in Plotinus
	- 'Resolutio' as a Metaphysical Journey of Saint Thomas Aquinas: The Elevation of Aristotelian 'Dynamis' to 'Potentia Essendi' in the 'Quaestiones Disputatae De Potentia Dei'
PLATO II (14)	- Lies in Plato's 'Hippias Minor', in Homer's 'Iliad', and in Sophocles' 'Philoctetes'
	- The Ambiguity of Rhetorical Discourse: Paths and Missteps of Persuasion (Peithó) as an Instrument for Philosophy in Plato's 'Gorgias'
	- The Treatment of Impiety in the Dramatic Context of 'Euthyphro': A Pastiche from 'The Clouds' as an Extension of Socrates' Apology
MEDIEVAL METAPHYSICS (38)	- The notion of "Parhemas" in Epicurus' Philosophy: What Man is Capable of?
	- John Quidort's View on Temporal and Spiritual Powers
	- A Characterization of the Notions of Particulars and Universals
MYTH AND SACRED (51)	- The Vindiciae contra Tyrannos and Monarchomachs
	- The Balance between the Irrational and Rational Elements in the Idea of the Sacred in Rudolf Otto
	- María Zambrano: The Sacred and Its Transformation into the Divine through Philosophy

PHENOMENOLOGY AND HERMENEUTICS

HEIDEGGER (71)	- Care and Need: an Interpretation of the Existentials of "Being and Time"
	- Commented Translation of the Martin Heidegger's "What is Metaphysics?"
	- The Ontological Foundations of *Dasein*: Existence, World, and Temporality
LEVINAS (42)	- Trauma, Paradox, Temporality: Freud and Levinas
	- The Saying: An Essay from Levinas and Derrida on the Language of the Other, of the World, and of the Body
	- From the 'Other' in Hegel's Master-Slave Dialectic to Lacan's 'Big Other' in the Constitution of the Subject

SARTRE (77)	- The Bad Faith in Sartrean Existential Analytics
	- The Phenomenological Notion of Transcendent Ego in Jean-Paul Sartre
	- Phenomenology and Ontology of Consciousness in Jean Paul Sartre
MERLEAU-PONTY (29)	- Merleau-Ponty and the Project of Restoring the Primordial Experience of Nature
	- The experience of Touch and the Reversibility of the Flesh in Merleau-Ponty
	- The Expressive Phenomenon in the Performative Body: A Phenomenological Analysis
EXISTENTIALISM (13)	- The Problem of the Meaning of Life: A Critical Discussion
	- The Notion of Circumstance in Ortega y Gasset's Rational Vitalism
	- When We Are Ill: The Concept of Pathological in Georges Canguilhem
INTENTIONALITY (28)	- Brentano and the Concept of Intentional Object: A Paradigmatic Reading from Twardowski
	- Resemblance and Depiction in the "Languages of Art", by Nelson Goodman
	- Intentionality and Existence: The Paradox of Representations Without Object in Twardowsi and Husserl
GADAMER (5)	- The Role of Aristotle's 'phronesis' in Shaping the Hermeneutical Problem in "Truth and Method"
	- Tradition: a Path against History: Contributions to Clarifying the Concept of Tradition in Hans-Georg Gadamer's "Wahrheit und Methode"
	- William Harvey and the 17th-Century Anatomy: Rupture and Tradition
RICOEUR (62)	- The Self as a Broken Ontology
	- Paul Ricoeur: Possibilities and Impasses of Narrative
	- Hypocrisy: Art of Deception, Art of the Actor. A Look at the Self-Creation in Nietzsche
POSTMODERNITY (79)	- The Postmodern Condition according to Jean-François Lyotard: Continuity or Rupture
	- The Theme of Post-history in the Thought of Vilém Flusser
	- Post-history and the Imagetic and Sonorous Compositions in Vilém Flusser

PHILOSOPHY OF MIND AND LANGUAGE

WITTGENSTEIN (64)	- The Concept of Rules in "On Certainty": The Third Wittgenstein?
	- Uninstantiated Attributes
	- The Problem of the Relationship between Language and World in L. Wittgenstein
CONSCIOUSNESS (41)	- Subjectivity as a Constitutive Element of the Mental according to John R. Searle
	- The Mind-Body Relationship in John Searle
	- The Problem of Free Will: Peter Van Inwagen's Incompatibilist Argument in "An Essay on Free Will"

BERGSON (27)	- The Concept of Simultaneity in Henri Bergson - Bergson and the Metaphysics of Moving - Time in Bergson: from the Psychological to the Ontological
THEORIES OF TRUTH (70)	- Fictional Names: a Referential-Reflexive Approach - The Concept of Truth in Semantically Closed Languages - Reflexive Content and the Presuppositional Account of Referential Failure in Situations of Scarcity of Information and Fiction
MENTAL STATES (78)	- Active Externalism and NBIC Technological Convergence: the Advent of Hypercognition - Jaak Panksepp's Affective Neuroscience: an Investigation into the Emotional Genesis of Consciousness - A Study on Mental States: the Debate between Internalism and Externalism
COGNITIVE SCIENCE (72)	- The Process of Habit Acquisition in Kohonen Neural Networks - Ecological Information and Social Networks: an Interdisciplinary Philosophical Analysis - On the Tracks of Innovation: a Philosophical Contribution to the Consolidation of a Model for Technological Evolution
MENTAL REPRESENTATION (74)	- A Concept of Information for the Representational Theory of Mind - Accessing Mental Representations to Predict Stimuli: how Beliefs and Concepts Modulate Brain Signals - The Plotinian Concept of Hyle: Place, Nature, and Generation
IMAGINATION (58)	- Phenomenology in "Philosophical Remarks": Time, Color, and Figuration - The Chiaroscuro of the Poetic Image: a Study on the Literary Image in the Work of Gaston Bachelard - The Circular Movements in "Ubu Rei"
PERSONAL IDENTITY (40)	- The Reverse Side of the World: Logic, Metaphysics, and Semantics of Counterfactual Conditionals - Personal Identity: a Critical Analysis of the Theory of Memory - Kant and the Mysticism: a Conflict between Reason, Enthusiasm and Madness

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MODERN EPISTEMOLOGY (8)	- Geometry and Science: a Relevant Correlation - A Study about the Correspondence between Changes in the Status of Geometry and Inflection in Science - Comparative Approaches to Thermodynamics Cycles and Potentials: Rational or Pragmatic Choice? - Revisiting the Question of the Unity of Science as Preeminent in Aristotle's Metaphysics: the Relevance of Book A for an "Archaeological" Reading
PSYCHOANALYSIS (67)	- Between Perversion and Perversity: Crime in the Work of Sigmund Freud - The First Freudian Theory of Neuroses - The Role of the Ego in the Early Freudian Psychology

SCIENTIFIC RATIONALITY (63)	- The Clash between Scientific Realism and Constructive Empiricism of Van Fraassen in "Images of Science": post-Criticisms of "The Scientific Image" - Incommensurability and Rationality in Thomas Kuhn: an Analysis of Epistemological Relativism - The Criteria for Theory Choice from the Perspective of Thomas Kuhn
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PHILOSOPHY OF HISTORY (66)	- The Distinction between Population Ecology and Evolutionary Ecology based on the Near-Remote Dichotomy - The Facts that are Told: Knowledge and Historians from one history to another - Voltaire's Concept of History
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PHILOSOPHY OF ART (37)	- Luigi Pareyson and the Aesthetics of Formativity: a Study of its Applicability to the Poetics of the Readymade - On the Concept of Artwork in Arthur Danto - What is Art? Is the Institutional Theory Promising?
DELEUZE & GUATTARI (11)	- Resisting the Law: Literature and Jurisprudence in Deleuze-Guattarian Philosophy - The Surface and the Fold: the Conditions of the Event in Gilles Deleuze - Vicissitudes of a Body in Times of Bio-Identity Captures: on the Concept of Sense in Gilles Deleuze
NIETZSCHE AND THE GREEKS (61)	- Dionysian Philosophy: Nietzsche and the Masks of Dionysus - Construction and Overcoming of the Images of Socrates in Nietzsche - From the Absurd to Revolt: Expressions of the Tragic in Camusian Thought
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PHILOSOPHY OF LITERATURE (4)	- An Introduction to the Paradox of Prediction - Domina Aeris or which is More Illustrious: Lightness or Gravity? - De Rerum Natura - Book III: An Exercise in Translating Philosophical Text
KANT-Aesthetics (60)	- Reflection and Fundament: The Universal Validity of Judgment of Taste in Kant's Aesthetics - Mario de Andrade: Critic Chronist of Visual Arts - Beauty Between the Sensible and the Supra-Sensible
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PHILOSOPHY OF MODERN ART (24)	- Unresolved Theater: Impasses of Subsidized Theater in the Production of the Play "Oresteia - The Song of the Goat", by the Folias D'Arte Theatrical Group - Illusions of Modernity: An Interpretation of Marcelo Grassmann's Work - The Contradiction Between Bourgeois Drama and Epic Theater in the Works of Oduvaldo Vianna Filho

ETHICS

NIETZSCHE-Ethics (19)	- Nietzsche and Transvaluation of Decadent Values: from the Beyond-the-Man to the Kind Noble - The Role of Zarathustra in Nietzsche's Philosophy: From Noon to the Great Noon - On Nietzsche's Genealogy of Morals

KANT-Ethics (6)	- The Sentiment of Respect in Kantian Morality - The Foundation of Morality: An Analysis of Expressing the Necessity and Universality of Practical Law in Immanuel Kant's 'Groundwork of the Metaphysics of Morals' - Moral Sentiment: Respect and the Fact of Reason
ARISTOTLE-Ethics (59)	- Eudaimonia in Nicomachean Ethics: Inclusive or Dominant End? - Prudence in Aristotle's Nicomachean Ethics - Character in Nicomachean Ethics: Meaning, Determinism, and Moral Responsibility
MORAL RESPONSIBILITY (52)	- Ethics of Liberation: The Victim from the Dusselian Perspective - Ethics and Responsibility in Hans Jonas' "The Technological Imperative" - Hans Jonas: An Ethics Oriented Towards the Future
BIOETHICS (34)	- Consequentialism and Deontology in Animal Ethics: A Critical Comparative Analysis of the Perspectives of Peter Singer, Steve Sapontzis, Tom Regan, and Gary Francione - Animal Liberation in Peter Singer's Ethics in the Light of Critiques of Tom Regan's Rights Theory - Singer, Korsgaard, and the Moral Status of Non-Human Animals
METAETHICS (43)	- Moral Fictionalism: A Critical Assessment of Richard Joyce''s Proposal - Naturalized Morality - Realism, Naturalism, and Moral Semantics
VIRTUE ETHICS (7)	- Tradition and Moral Relativism in Alasdair MacIntyre - Rationality of Traditions and Possibilities for Overcoming Moral Relativism in Alasdair MacIntyre - The Place of Virtue and the Moral Subject in Alasdair MacIntyre's Philosophy

EXCLUDED TOPICS

(1)	Top-5 terms: form, meaning, colours, nature, modern - The Economic Discourse of Modernity: Notes from the Periphery - Threads, Webs, and Networks in the Foucaultian Ground - Between Proofs and Experiments: a Wittgensteinian Reading of the Controversies Surrounding the Proof of the Four-Color Theorem

(2)	Top-5 terms: fields, teaching, brazil, school, brazilian
	- Mathematics and Philosophy in the Critique of Pure Reason
	- Problems and their Problems: the Structure and Dynamics of Science seen through the Lens of Problem-Solving
	- Tradition and Modernity in Brazilian furniture: Visions of Utopia in the Works of Carrera, Tenreiro, Zanine, and Sérgio Rodrigues
(10)	Top-5 terms: tradition, modernity, Western, meaning, Greek
	- Philosophy in the Shadow of Auschwitz: Elements for a Hermeneutics of Despair in the Thought of Theodor W. Adorno
	- Blaise Pascal and the Philosophical Pessimism
	- The Concept of Symmetry in the Cosmology of Anaximander of Miletus
(21)	Top-5 terms: discourse, thomas, aquinas, world, intelect
	- The desacralization of culture in Max Stirner
	- Essentialism and modernity: the critique of Max Stirner
	- The Mas'ala discussion about the eternity of the world in Averroes' "Tahafut al-Tahafut"
(46)	Top-5 terms: war, montaigne, global, friendship, humanity
	- The concept of passive revolution in Antonio Gramsci's Prison Notebooks
	- Induction and Circularity: an Examination of the Reliabilist Response to Hume's Problem
	- War and Peace in the Anthropocene: an Analysis of the Ecological Crisis according to the Work of Bruno Latour
(80)	Top-5 terms: reflection, possibilities, grounding, understanding, construction
	- The Status of Reflection in Sartre
	- Double Reflection: a Journey through the Concept of Reflection in Kierkegaard, Fichte, and the first German Romanticism
	- This is not Art: the Concept of Reflection in Kant Appropriated in the Reception of Contemporary Art

APPENDIX E
TRENDS OVER TIME (1991-2021)
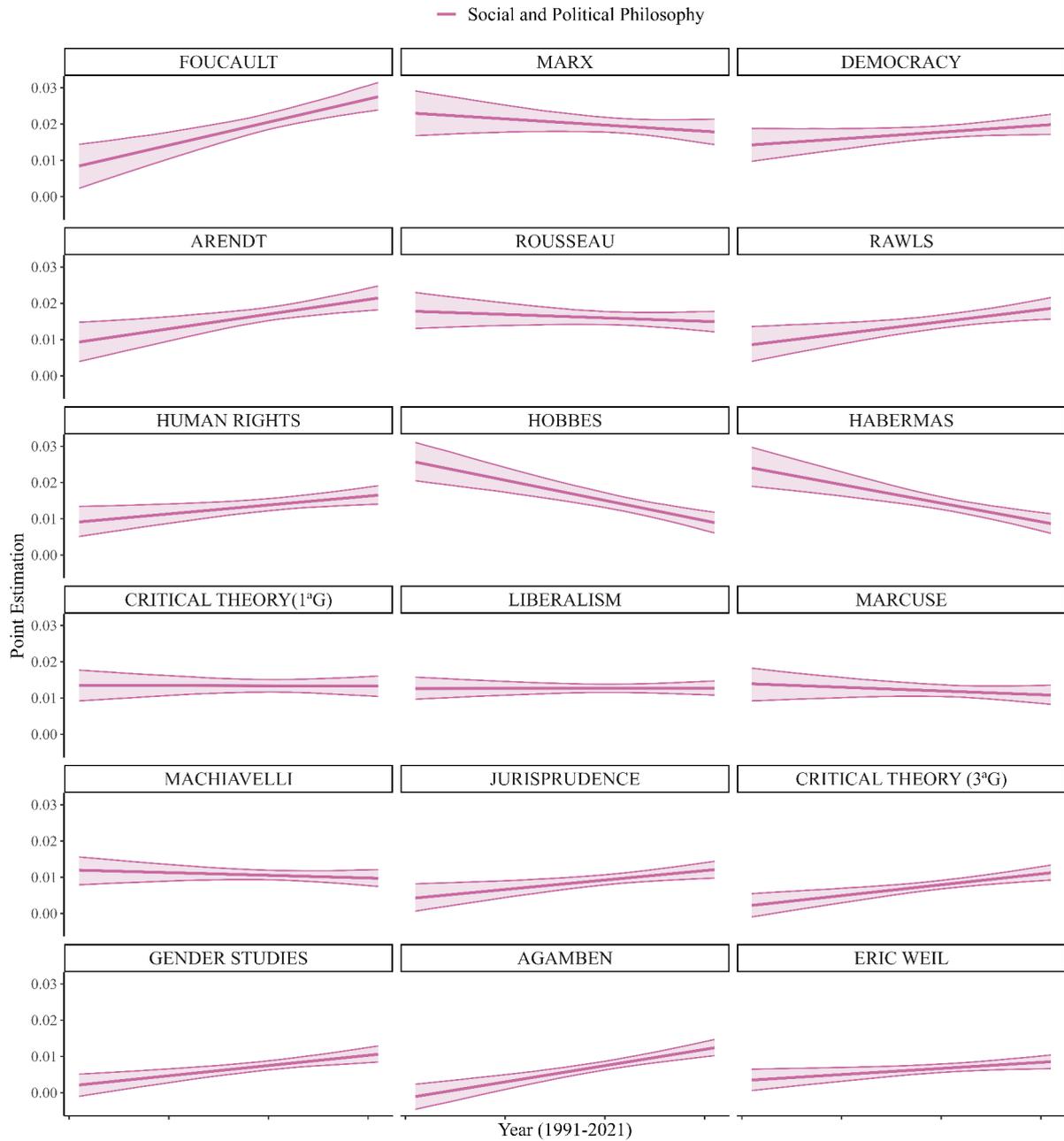
— Social and Political Philosophy

Fig.E.1 Evolution of the estimated prevalence of each topic sorted by Category (Social and Political Philosophy)
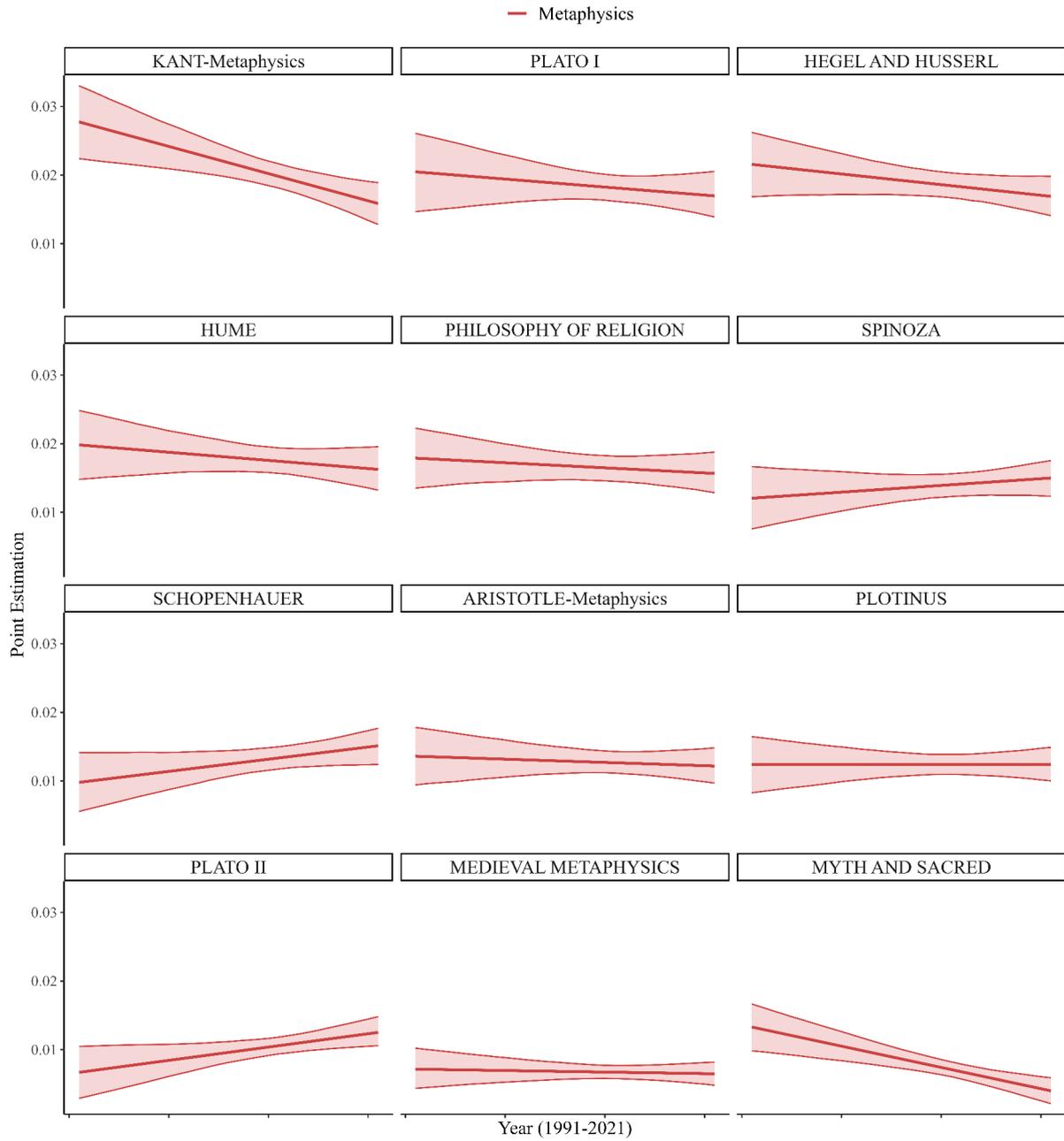
Fig.E.2 Evolution of the estimated prevalence of each topic sorted by Category (Metaphysics)
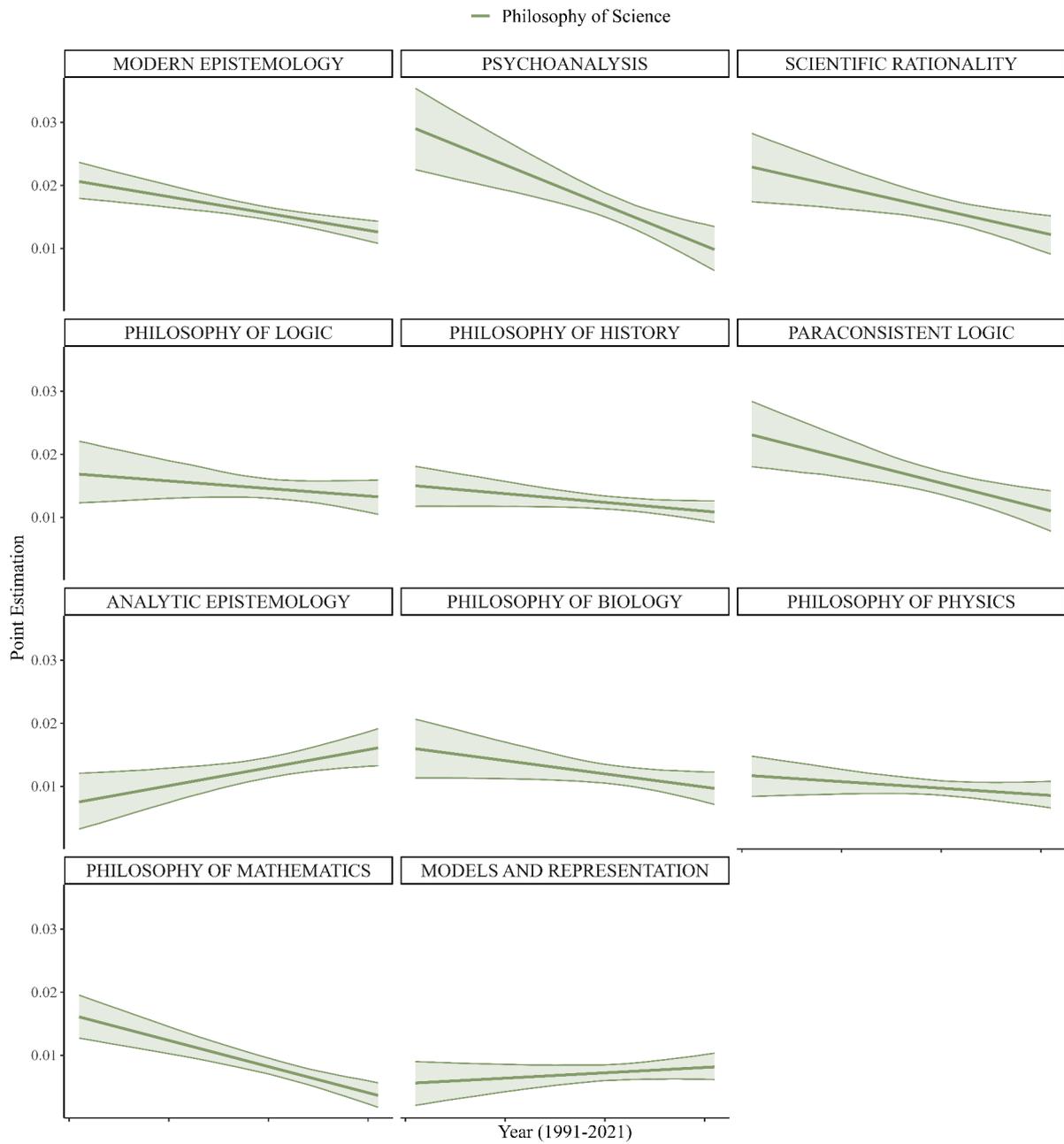
Fig.E.3 Evolution of the estimated prevalence of each topic sorted by Category (Epistemology and Philosophy of Science)
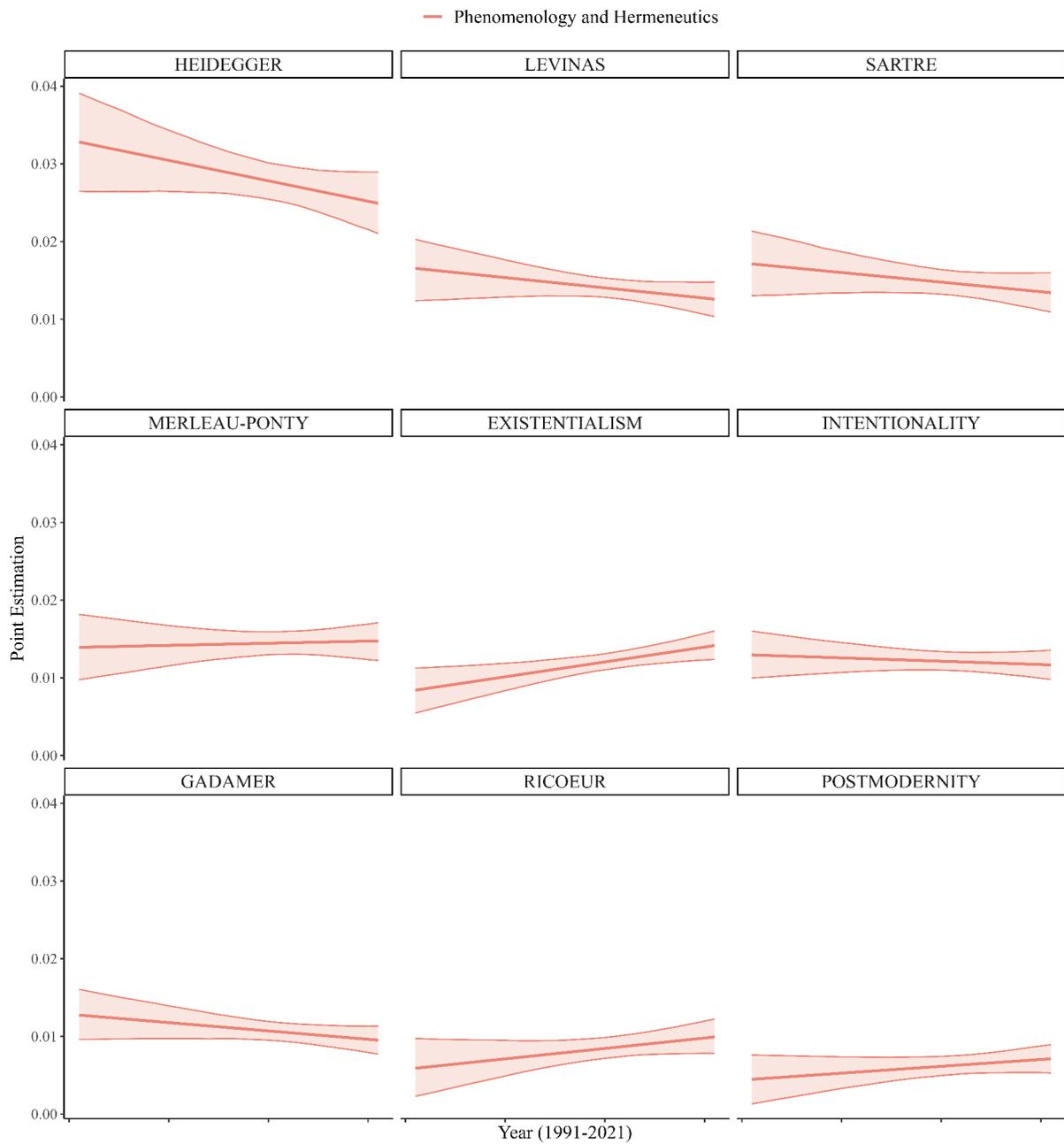
Fig.E.4 Evolution of the estimated prevalence of each topic sorted by Category (Phenomenology and Hermeneutics)
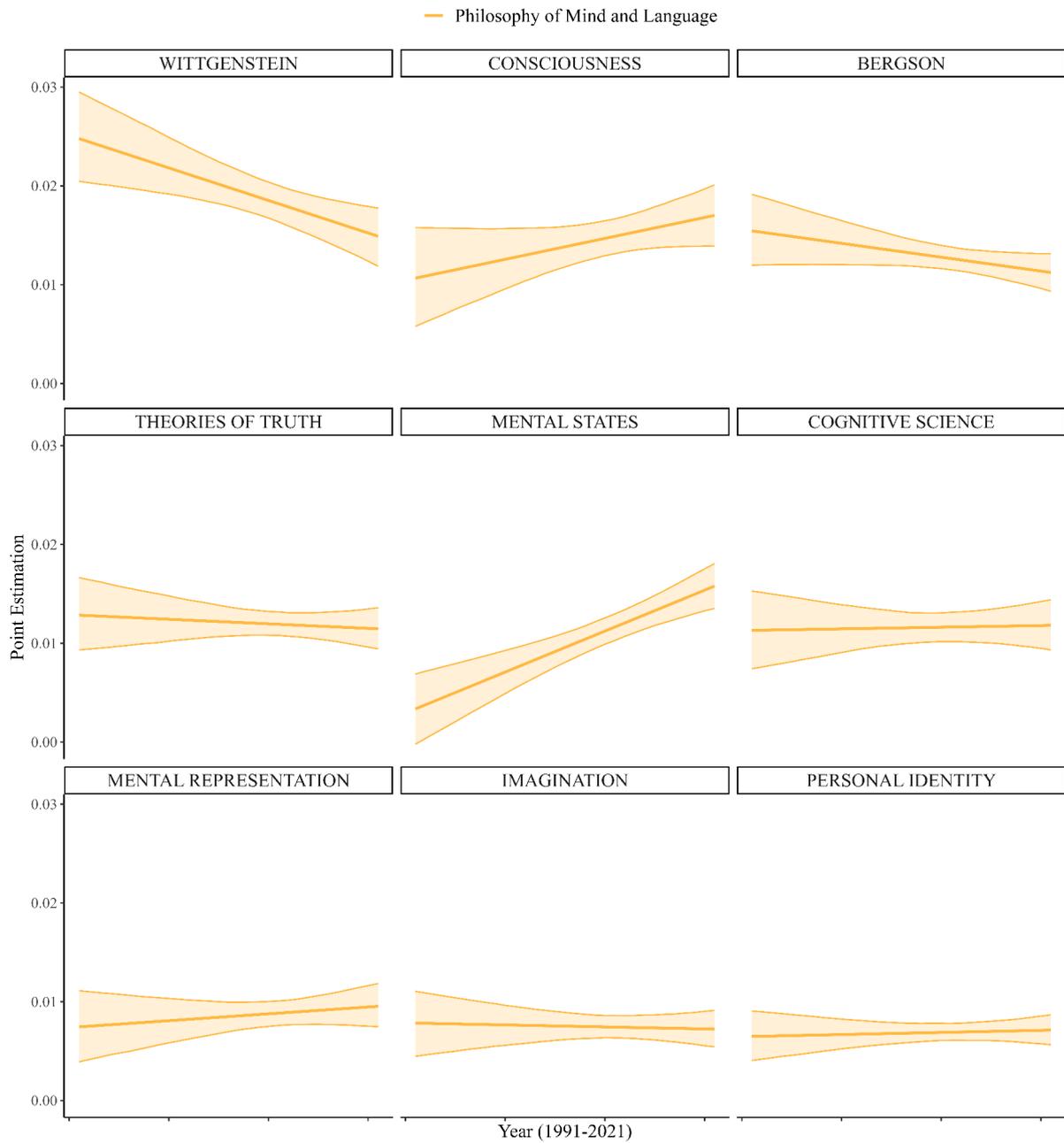
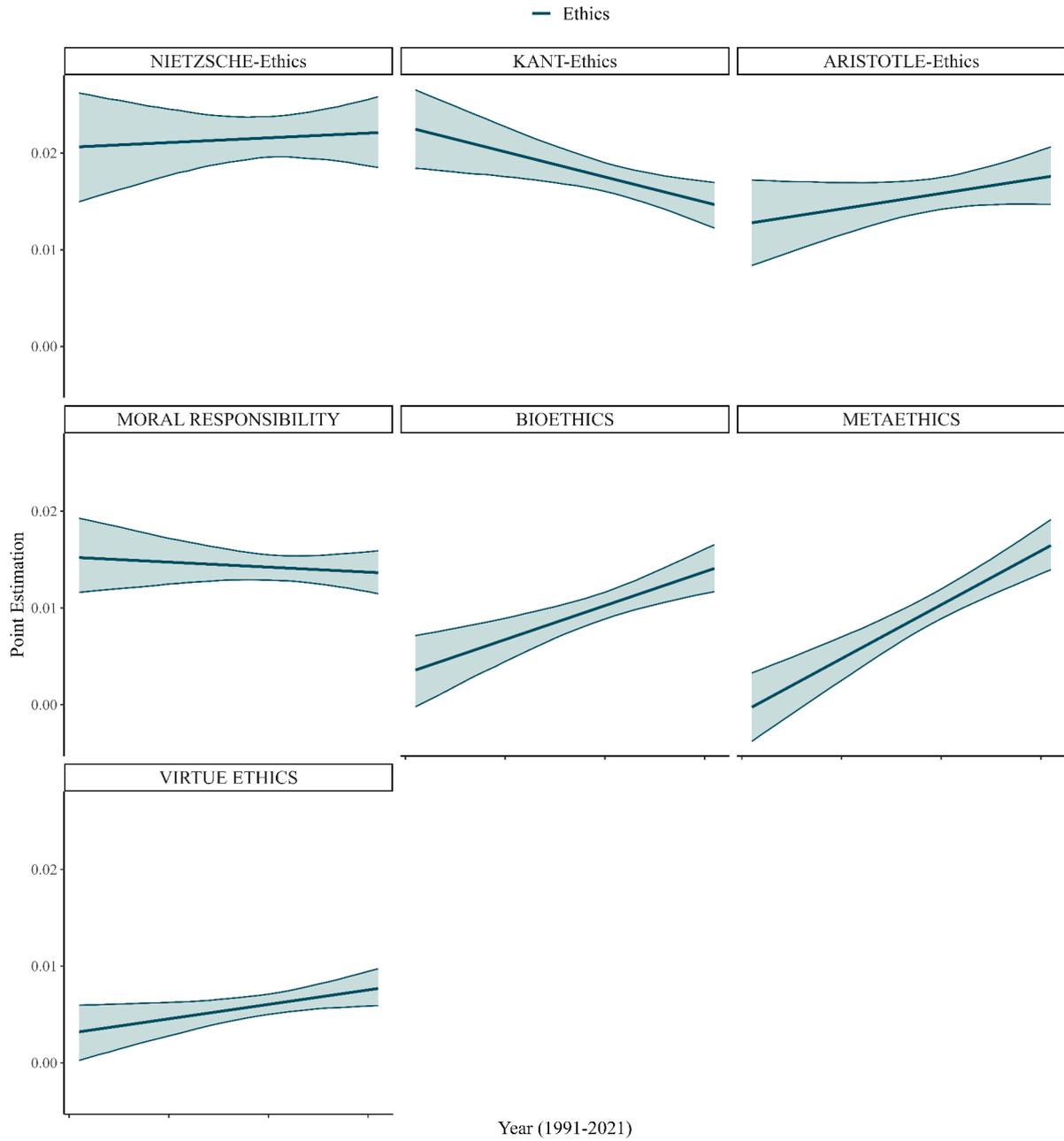**Fig.E.5** Evolution of the estimated prevalence of each topic sorted by Category (Philosophy of Mind and Language)

Fig.E.6 Evolution of the estimated prevalence of each topic sorted by Category (Ethics)
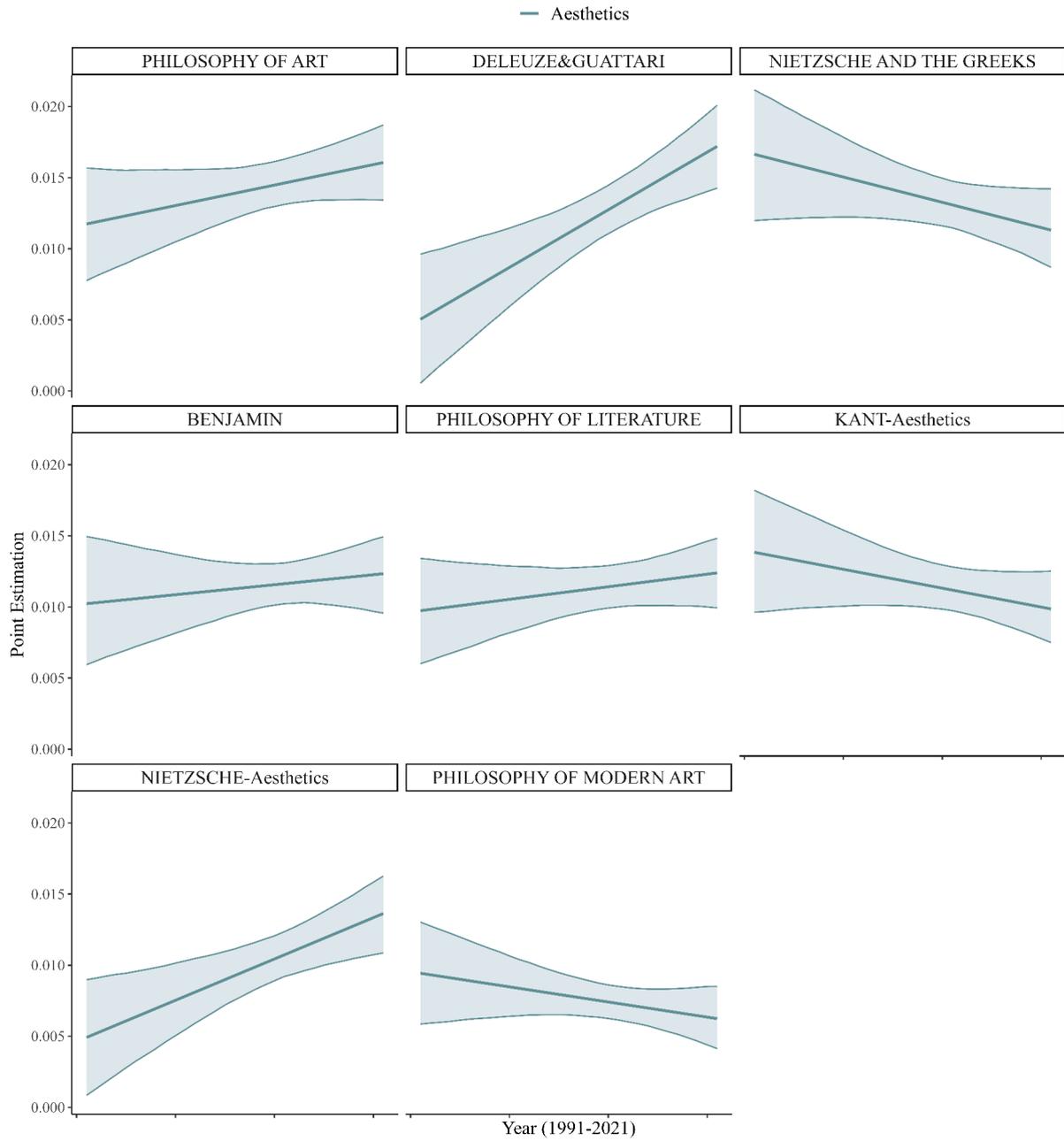
Fig.E.7 Evolution of the estimated prevalence of each topic sorted by Category (Aesthetics)

APPENDIX F
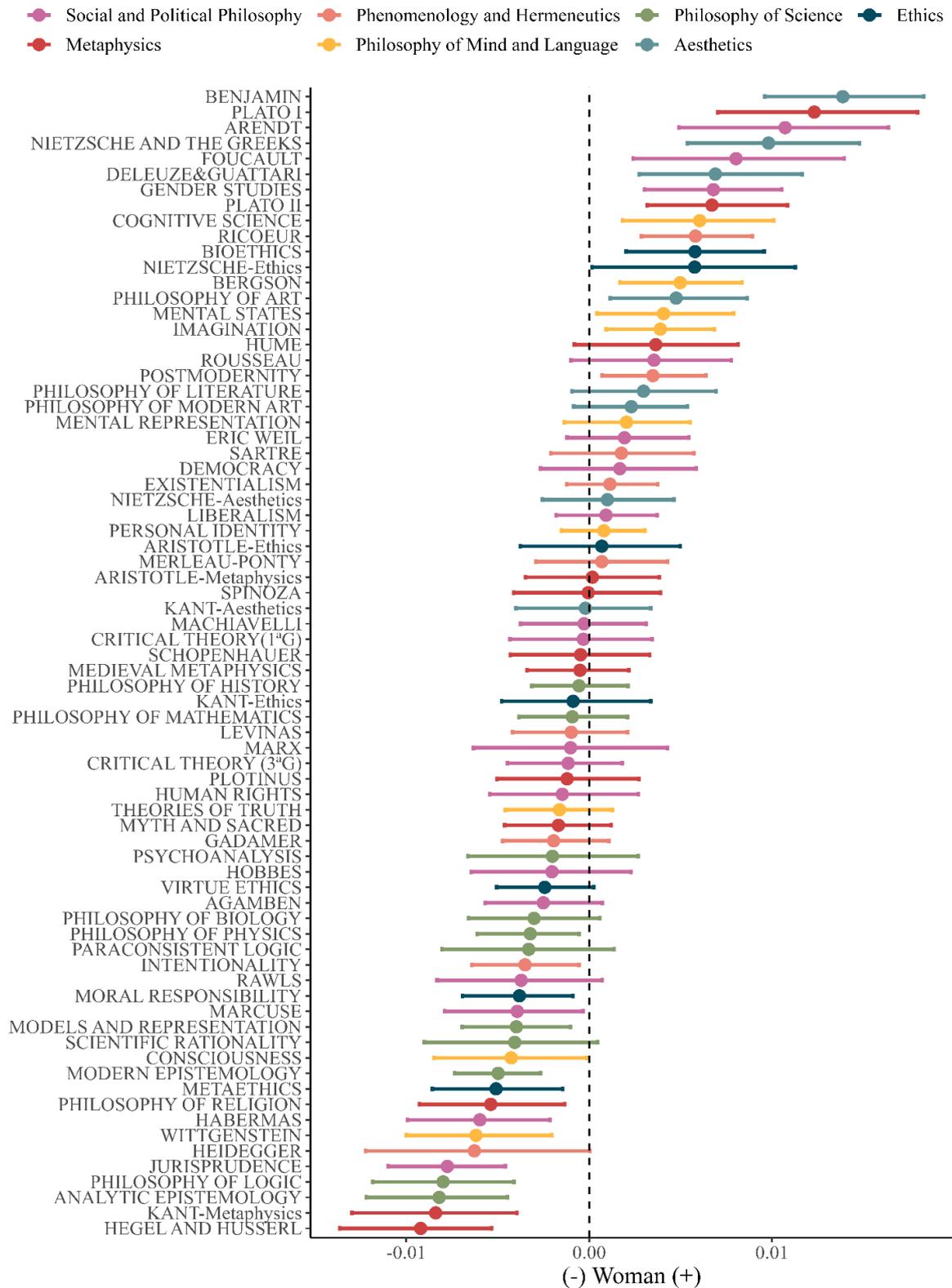**EFFECT OF SUPERVISORS' GENDER**

Fig. F Graphical display of the difference in topical prevalence by supervisor's gender (man or woman). Dots represent point estimates for the difference. The lines represent the confidence intervals.