The Analytic-Continental Divide in Philosophical Practice: An Empirical Study

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Abstract: Philosophy is often divided into two traditions or camps: Analytic Philosophy and Continental Philosophy. Characterizing the so-called "Analytic-Continental divide," however, and explaining the differences between these two philosophical traditions is no easy task. Some philosophers have argued that the differences have to do with the place of argument in the two traditions. This raises the following questions: Is Analytic Philosophy rife with arguments while Continental Philosophy is devoid of arguments? Or can different types of arguments be found in Analytic Philosophy and in Continental Philosophy? If so, which ones? Using data mining and text analysis methods, we study a large corpus of philosophical texts mined from the JSTOR database (n = 53,260) in order to tackle these questions empirically. Using indicator words to classify arguments by type (deductive, inductive, and abductive arguments), we search through our corpus to find patterns of usage. Overall, the results of our empirical study suggest that there are no significant differences between the types of arguments advanced in Analytic Philosophy journal articles and the types of arguments advanced in Continental Philosophy journal articles. In fact, articles published in both AP journals and CP journals contain the three types of arguments we have looked at, namely, deductive, inductive, and abductive arguments, with no significant differences in frequency. Our findings, therefore, provide no empirical support to the hypothesis that the so-called split or divide between Analytic Philosophy and Continental Philosophy has something to do with the place of argument in these two philosophical traditions or camps.

Keywords: abductive argument; analytic philosophy; continental philosophy; deductive argument; indicator words; inductive argument; metaphilosophy; philosophical practice

1. Introduction

Philosophy is often divided into two traditions or camps: Analytic Philosophy (AP) and Continental Philosophy (CP). As Chase and Reynolds (2011, p. 1) put it, "Anyone who works within academic philosophy is familiar with the (claimed) distinction between analytic or Anglo-American philosophy and its so-called continental or European counterpart." Similarly, according to Critchley (2001, p. 40), the "de facto divide between analytic and Continental philosophy can be observed in sundry philosophical epiphenomena such as job descriptions asking for 'Continentalists' and in publishers' catalogues where special pages are given over to Continental philosophy, usually towards the back of the catalogue."

Characterizing the so-called "Analytic-Continental divide," however, and explaining the differences between these two philosophical traditions is no easy task. After all, some European philosophers are considered analytic philosophers, whereas some Anglo-American philosophers are considered continental philosophers (Bell et al. 2016, p. 1). If there is a split between AP and

CP, then, it seems that it cannot be drawn simply along geographical lines (May 2002). As Levy (2003, p. 284) puts it:

> Since the early twentieth century, Western philosophy has been split into two apparently irreconcilable camps: the "analytic" and the "continental." Philosophers who belong to each camp read and respond to their fellows almost exclusively; thus, each stream develops separately, and the differences become more entrenched. Relations between the camps are characterized largely by mutual incomprehension and not a little hostility. But because few philosophers are well acquainted with both dies, *the nature of the split is not well understood* (emphasis added).[1]

The aim of this paper is to contribute to our understanding of the split, namely, the so-called "Analytic-Continental divide," by taking an empirical approach.

Some philosophers have argued that the differences between AP and CP have to do with the place of argument in these two philosophical traditions. That is, it has been argued that argument occupies a more important place in AP than in CP. In other words, analytic philosophers respect argument more than continental philosophers do, or so it has been argued. As Stevens (2013, p. 32) puts it:

> It is sometimes said that the two [i.e., AP and CP] differ by virtue of the role played by *argument* in each. Continental philosophers, it is sometimes said, are not playing the same game that analytic philosophers play; they do not employ *arguments* as the key element in their method (emphasis added).

For example, according to Williams (2011, p. xvi), "What distinguishes analytical philosophy from other contemporary philosophy [...] is a certain way of going on, which involves *argument*, distinctions, and [...] moderately plain speech" (emphasis added). Likewise, Quinton (2005, p. 170) claims that CP relies "on dramatic, even melodramatic, utterance rather than sustained rational *argument*" (emphasis added).[2] Stevens (2013) himself goes on to claim that "Philosophical problems are addressed by *argument*, using the best logical resources for constructing those *arguments* available at the time" (p. 33) and that "if it really is the case that there are figures in the analytic tradition who reject *argument* then [...] it is only fair to describe them as having made a radical departure from traditional philosophy" (p. 33, note 9).[3] Along the same lines, Levy (2003, p. 286) observes that some "features of CP [...] give the impression that it is *argument* free," whereas some features of AP give the impression that it "is a new

[1] On the history of the split, which is beyond the scope of this paper, see Rockmore (2004).

[2] According to Humphries (1999, p. 265), "In some contemporary continental philosophy, there may be little emphasis given to *strict argumentative protocols* or to consequential discursive movement, and the attempt to win the reader's conviction must use other, perhaps less transparent, means. Implicit here is a critique of the strategy of *argumentation*, which may itself too often fall short of the ideal of rational transparency" (emphasis added).

[3] In a book symposium on his *What is Analytic Philosophy?* (2008), Glock (2013) replies to Stevens (2013), although he seems to agree with Stevens about "the premium placed on argument and clarity" in AP (Glock 2013, p. 36). For further discussion, see Zahavi (2016, pp. 79-93).

scholasticism, where the concern for technique overwhelms the very problem that the techniques had originally been designed to solve" (emphasis added).[4]

All of this raises the following questions, which are the research questions that will guide our empirical study in this paper:

1. Is Analytic Philosophy rife with arguments while Continental Philosophy is devoid of arguments? Or can different types of arguments be found in Analytic Philosophy and in Continental Philosophy?
2. If different types of arguments are made in Analytic Philosophy and in Continental Philosophy, which types of arguments are typically made in AP and which types of arguments are typically made in CP? Are there significant differences between the types of arguments typically made in AP versus those typically made in CP?

We set out to investigate these questions empirically. Using data mining and text analysis methods, we study a large corpus of philosophical texts mined from the JSTOR database (n = 53,260). Using indicator words to classify arguments by type (namely, deductive, inductive, and abductive arguments), we search through our corpus to find patterns of usage. Before we report the results of our empirical study in Section 3, we describe our methodology in more detail in Section 2. In Section 4, we will discuss how the results of our empirical study provide tentative answers to our research questions (1) and (2) above. Overall, the results of our empirical study suggest that there are no significant differences between the types of arguments advanced in AP journal articles and the types of arguments advanced in CP journal articles. In fact, articles published in both AP journals and CP journals contain the three types of arguments we have looked at, namely, deductive, inductive, and abductive arguments, with no significant differences in frequency. Our findings, therefore, provide no empirical support to the hypothesis that the so-called split or divide between AP and CP has something to do with the place of argument in these two philosophical traditions or camps.

2. Methods

2.1 *Background*

Introductory textbooks to logic, reasoning, and critical thinking typically contain a brief discussion of indicator words. There are premise indicators—words such as 'because' and phrases such as 'inferred from' and the like--which indicate a premise of an argument, and there are conclusion indicators—words such as 'therefore' and phrases such as 'it follows that' and the like--which indicate a conclusion of an argument. For example, Morrow and Weston (2011, p. 5) instruct students to look for indicator words in order to distinguish between premises and conclusions. According to Morrow and Weston (2011, p. 5):

> Some words or phrases are *conclusion indicators*. These are words or phrases that tell you that you're about to read or hear the conclusion of an argument. Other words or

[4] Cf. Milkov (2020, p. 219): "since regulative ideas guide continental philosophy, its practitioners offer insights that either are connected in closed (finite) systems [...] or are autonomous ideas with no logical connection to other of the same philosopher's insights. Analytic philosophers, in contrast, endeavor to articulate their ideas in webs of logical connections."

> phrases are *premise indicators*. These tell you that you're about to read or hear a premise (emphasis in original).

They then provide a list of premise indicators, which includes words like ‘because’ and ‘this follows from’, and a list of conclusion indicators, which includes words like ‘therefore’ and ‘hence’ (Morrow and Weston 2011, p. 5). Likewise, according to Marcus (2018, pp. 9-10), “there are premise and conclusion indicators. ‘We may conclude that’ is used to indicate a conclusion. ‘This may be inferred from the fact that’ is used to indicate a premise.”

In addition to helping students identify premises and conclusions of arguments, indicators also help students distinguish between deductive arguments and inductive arguments. For example, according to Baronett (2016, p. 23):

> to help identify arguments as either deductive or inductive, one thing we can do is look for key words or phrases. For example, the words ‘necessarily,’ ‘certainly,’ ‘definitely,’ and ’absolutely’ suggest a deductive argument. . . . On the other hand, the words ‘probably,’ ’likely,’ ‘unlikely,’ ‘improbable,’ ‘plausible,’ and ’implausible’ suggest inductive arguments.

Similarly, according to Hurley and Watson (2018, p. 35), “inductive indicators” include terms and phrases such as ‘probably’, ‘improbable’, ‘plausible’, ‘implausible’, ‘likely’, ‘unlikely’, and ‘reasonable to conclude’, whereas “deductive indicators” include terms and phrases such as ‘it necessarily follows that’, ‘certainly’, ‘absolutely’, and ‘definitely’.

We can use these deductive indicators and inductive indicators, then, to look for deductive arguments and inductive arguments in philosophical texts in much the same way that students use them to identify arguments in any text. To the aforementioned deductive and inductive indicators, we can also add indicators for abductive arguments, i.e., arguments in which the conclusion is supposed to be the best explanation for some phenomenon. Abductive indicators include phrases such as ‘account for’, ‘best explain’, ‘make sense of’, and ‘best explanation for’ (Overton 2013). The types of arguments we searched for in this empirical study and their associated indicators are listed in Table 1.[5]

Table 1. Types of arguments and their indicator words with examples from philosophical texts

Argument Types	**Indicators**	**Examples**
Abductive	account for, best explain, makes sense of, best explanation for	“The deliberate nature of evidence matters for its status as evidence because knowledge of its deliberate production matters for what *best explains* the existence of the evidence” (Keren 2012, p. 702).

[5] Ashton and Mizrahi (2018, p. 58) use a similar methodology to test the hypothesis that “philosophy is a priori and in the business of discovering necessary truths from the armchair.”

Deductive	absolutely, certainly, definitely, necessarily	"even if one grant that some necessary work is now intrinsically defeative of the good life, it does not *absolutely* follow that it is necessary for men to do that work" (Smith 1924, pp. 552-553).
Inductive	likely, unlikely, probably, improbable	"It is therefore *unlikely* that there is a single complete and fixed commentary per model, stable across audiences and contexts" (Maki 2009, p. 39).

In order to make sure that our indicators for argument types (see Table 1) actually indicate arguments in the corpus, we anchor them to argument indicators, i.e., to words such as 'therefore', 'hence', and the like. This procedure results in the argument indicator pairs listed in Table 2. By searching for these argument indicator pairs (as listed in Table 2) in our corpus, we can find out what types of arguments philosophers make in their published works and with what frequency.

Table 2. Indicator pairs for deductive, inductive, and abductive arguments

Deductive indicator pairs	**Inductive indicator pairs**	**Abductive indicator pairs**
therefore necessarily	therefore probably	therefore account for
therefore certainly	therefore likely	therefore best explain
therefore definitely	therefore unlikely	therefore make sense of
therefore absolutely	therefore improbable	therefore best explanation for
hence necessarily	hence probably	hence account for
hence certainly	hence likely	hence best explain
hence definitely	hence unlikely	hence make sense of
hence absolutely	hence improbable	hence best explanation for
so necessarily	so probably	so account for
so certainly	so likely	so best explain
so definitely	so unlikely	so make sense of
so absolutely	so improbable	so best explanation for
consequently necessarily	consequently probably	consequently account for

consequently certainly	consequently likely	consequently best explain
consequently definitely	consequently unlikely	consequently make sense of
consequently absolutely	consequently improbable	consequently best explanation for
proves necessarily	proves probably	proves account for
proves certainly	proves likely	proves best explain
proves definitely	proves unlikely	proves make sense of
proves absolutely	proves improbable	proves best explanation for
thus necessarily	thus probably	thus account for
thus certainly	thus likely	thus best explain
thus definitely	thus unlikely	thus make sense of
thus absolutely	thus improbable	thus best explanation for
follows necessarily	follows probably	follows account for
follows certainly	follows likely	follows best explain
follows definitely	follows unlikely	follows make sense of
follows absolutely	follows improbable	follows best explanation for
accordingly necessarily	accordingly probably	accordingly account for
accordingly certainly	accordingly likely	accordingly best explain
accordingly definitely	accordingly unlikely	accordingly make sense of
accordingly absolutely	accordingly improbable	accordingly best explanation for
infer necessarily	infer probably	infer account for
infer certainly	infer likely	infer best explain
infer definitely	infer unlikely	infer make sense of
infer absolutely	infer improbable	infer best explanation for

Of course, we must keep in mind that the aforementioned abductive, deductive, and inductive indicator words are just that--*indicators*. That is, they are not sure signs for the presence (or absence) of arguments in texts. As Hurley and Watson (2018, p. 16) puts it, “the

mere occurrence of an indicator word by no means guarantees the presence of an argument." Conversely, the mere absence of an indicator word by no means guarantees the lack of an argument. Nevertheless, indicator words are still useful and reliable indicators for the presence of arguments in text, which is why introductory textbooks to logic and philosophy instruct students to look for them. As Lepore and Cumming (2013, p. 6) put it, "Although there are no sure signs of whether an argument is present, fairly reliable indicators exist." Indeed, Lepore and Cumming (2013, p. 6) proceed to list some of the aforementioned indicator words as well as those listed in Tables 1 and 2.[6]

In order to find answers to research questions (1) and (2) above, we need to be able to distinguish between not only types of arguments (i.e., deductive, inductive, or abductive arguments) but also types of journals. More specifically, we need to tag the journals in our corpus as analytic or continental to be able to say what types of arguments are made in Analytic Philosophy (AP) and Continental Philosophy (CP). Some philosophy journals state their aim to publish AP explicitly (e.g., *Analysis*), whereas other philosophy journals state their aim to publish CP explicitly (e.g., *Diderot Studies*). We characterized such journals as either AP or CP. Our corpus contains six philosophy journals whose explicit aim is to publish work in CP. We matched those six CP journals with six AP journals. We selected the six AP journals from popular lists of AP journals perceived to be the best in the field, such as the lists commonly found on Brian Leiter's blog.[7] This procedure results in the AP and CP journals listed in Table 3.

Table 3. Philosophy journals that publish work in Analytic Philosophy (AP) and those that publish work in Continental Philosophy (CP)

Analytic Philosophy Journals	**Continental Philosophy Journals**
Analysis	Diderot Studies
Mind	Journal of Ayn Rand Studies
Noûs	Journal of Nietzsche Studies
Philosophical Studies	The Pluralist
The Journal of Philosophy	Research in Phenomenology
The Philosophical Review	Sartre Studies International

2.2 *Text-Mining Methods*

A combination of several text-mining packages in R Language were used to manipulate the corpus of philosophical texts throughout this study. RStudio was used as an interactive-development environment to process the data. The corpus of documents included a .txt file

[6] Ashton and Mizrahi (2018, p. 62) use indicator words to test the hypothesis that "philosophy is a priori and in the business of discovering necessary truths from the armchair." In this study, we have scaled up their methodology to include abductive arguments in addition to deductive arguments and inductive arguments.

[7] See, for example, this list: https://leiterreports.typepad.com/blog/2018/11/best-general-journals-of-philosophy-2018.html.

containing the full-text of the philosophical work, and a corresponding .xml file to the full-text file comprised of metadata information about each text file.

The *readtext* package was utilized to load the text files into the RStudio environment. The *readtext* function takes a folder path as an input parameter, i.e., readtext("filepath"). The *readtext()* function will then load all files in the target folder into RStudio as a dataframe. The dataframe will consist of two columns. The first column is titled "doc_id" and it lists the file names as individual elements within a string vector. The second column is titled "text" and it includes the full-text from each of the individual text files as a single character string. The result is a vector of character strings, with each string containing the full-text of an input text file. The .xml files were converted to .txt files from the Windows Command Prompt application as well as read into R using the *readtext()* function.

To search for indicator pairs within the full-text documents, the *string_detect()* function from the *stringr* package was used in combination with a regular expression as a pattern search parameter. The argument indicator root and anchor were included within the regular expression to search for specific words.

The regular expression pattern allowed for the root of the argument indicator pairs to both precede and follow the anchor word(s) within a certain range of words, exclusively. The function was applied to the corpus across three word-ranges. The ranges selected permitted 3, 6, or 10 words between the argument indicator root and the anchor word(s). For example, to search for pattern matches across a range of 3 words, the regular expression returns a positive match in the following cases:

Root $word_1$ $word_2$ $word_3$ *Anchor* | OR | *Anchor* $word_1$ $word_2$ $word_3$ *Root*

Any pattern in which the argument indicator roots and anchors are separated by less than the maximum range (i.e., 3, 6 or 10) is also considered a positive match. For example, as applied within a 3-word maximum range, the following case would be considered a positive match:

Anchor $word_1$ $word_2$ *Root*

Applied in this manner, the *string_detect()* function will return a list of TRUE or FALSE logical values, where TRUE indicates the presence of the argument indicator and the anchor at least one time within each document and FALSE indicates no pattern match. The logical values were then converted to numeric data, with 1 replacing TRUE and 0 replacing FALSE. This detection process was repeated for each indicator pair for each of the deductive, inductive, and abductive lists and across all three word-ranges. The resulting lists were then summed, and the number of positive matches were recorded to a separate .csv file.

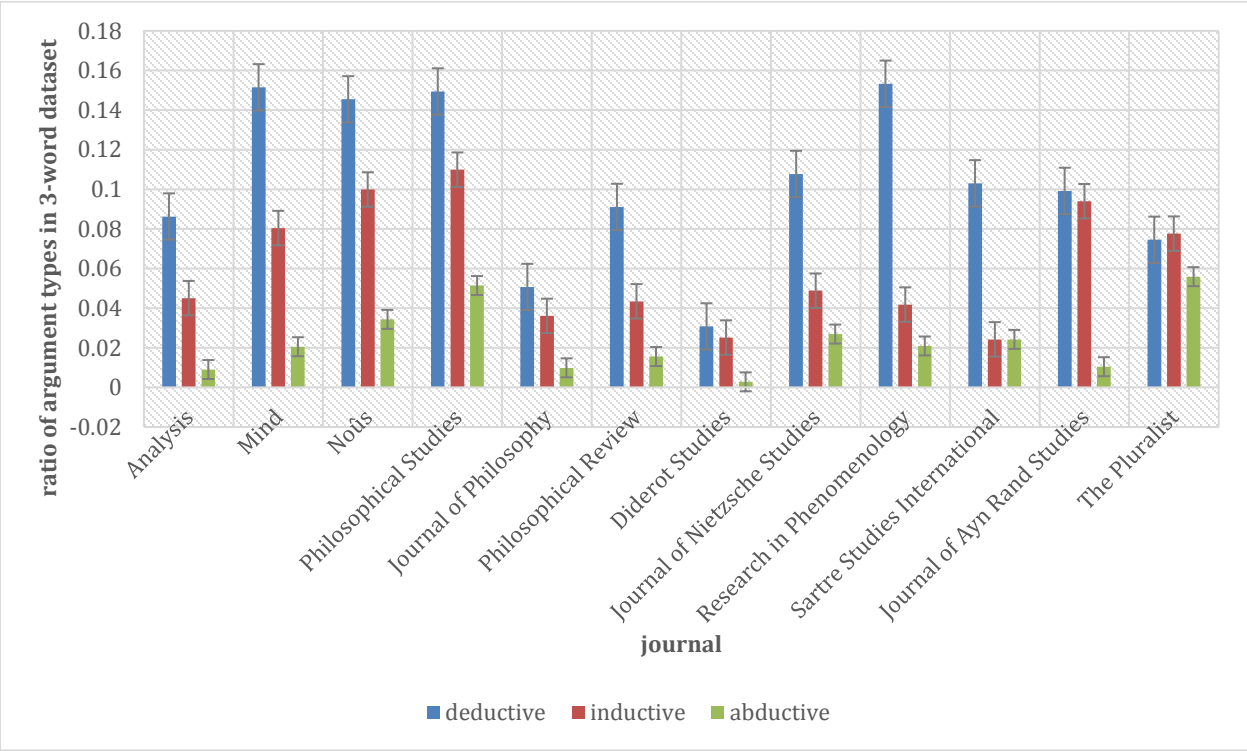
Separate .csv files containing matched full-text documents across each of the word-ranges were also generated from these lists. Journal titles for the specific publications under analysis in this study were then extracted from the metadata file for each item in the corpus. The total number of items for each journal within the corpus was calculated. Additionally, the total number of articles containing indicator-pair matches across each word-range and argument type was then calculated. Ratios were then calculated from the total number of items per publication

and the number of matches for each argument type and word-range. These ratios were then analyzed for statistical significance and visualized.

3. Results

In searches permitting three words between argument indicator root and anchor, the ratio of deductive arguments is always higher than the ratio of inductive arguments or the ratio of abductive arguments, whether in AP journals or CP journals, with the exception of the CP journal, *The Pluralist*, in which the ratio of inductive arguments is higher than the ratio of deductive arguments or the ratio of abductive arguments. See Figure 1.

Figure 1. Ratios of deductive, inductive, and abductive arguments in search results permitting three words between argument indicator root and anchor by journal

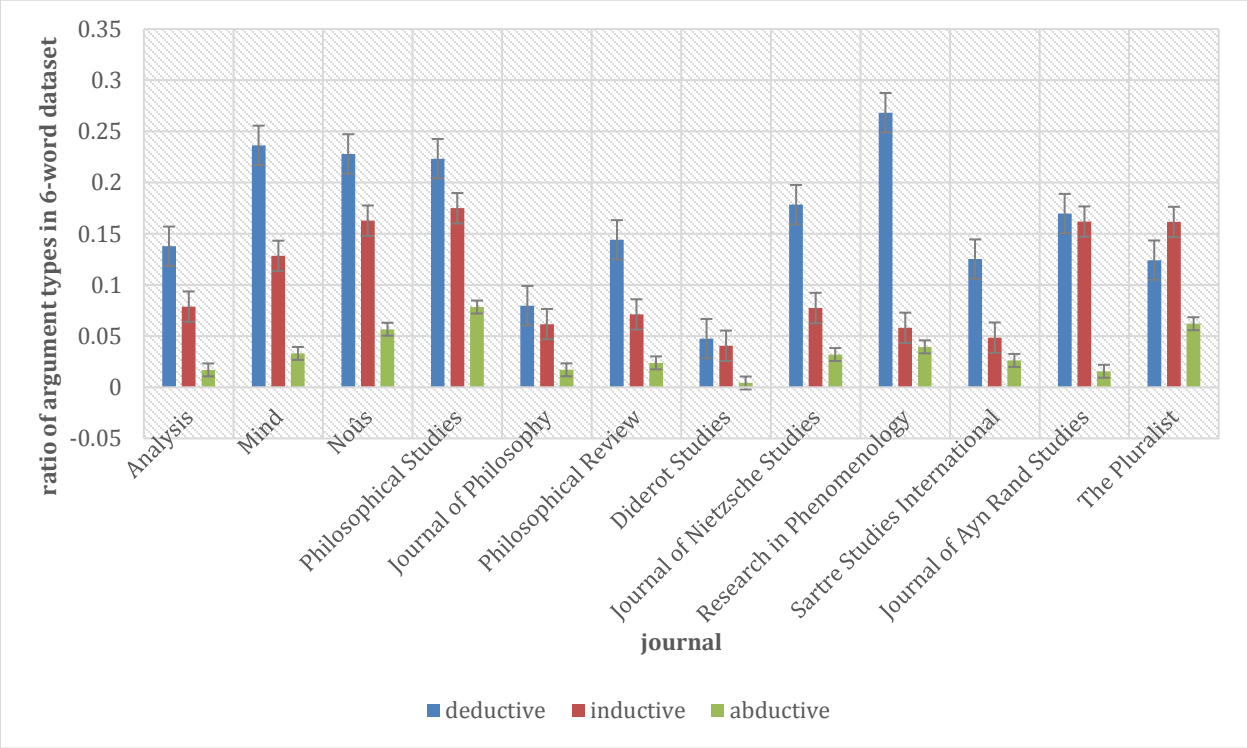


A Welch's *t*-test was conducted to compare the ratios of deductive arguments in AP journal articles and in CP journal articles from the results of searches allowing a 3-word maximum range. There was no significant difference between the ratios of deductive arguments in AP journal articles ($M = 0.11$, $SD = 0.04$) and the ratios of deductive arguments in CP journal articles ($M = 0.09$, $SD = 0.04$), $t(10) = 0.73$, $p = 0.47$. Likewise, a Welch's *t*-test was conducted to compare the ratios of inductive arguments in AP journal articles and in CP journal articles from the results of searches allowing a 3-word maximum range. There was no significant difference between the ratios of inductive arguments in AP journal articles ($M = 0.06$, $SD = 0.03$) and the ratios of inductive arguments in CP journal articles ($M = 0.05$, $SD = 0.02$), $t(10) = 0.98$, $p = 0.34$. Finally, a Welch's *t*-test was conducted to compare the ratios of abductive arguments in AP journal articles and in CP journal articles from the results of searches allowing a 3-word

maximum range. There was no significant difference between the ratios of abductive arguments in AP journal articles (M = 0.02, SD = 0.01) and the ratios of abductive arguments in CP journal articles (M = 0.02, SD = 0.01), $t(10) = -0.008$, $p = 0.99$. These results suggest that there are no significant differences between the types of arguments that are typically found in AP journal articles and the types of arguments that are typically found in CP journal articles.

In searches permitting six words between argument indicator root and anchor, the ratio of deductive arguments is always higher than the ratio of inductive arguments or the ratio of abductive arguments, whether in AP journals or CP journals, with the exception of the CP journal, *The Pluralist*, in which the ratio of inductive arguments is higher than the ratio of deductive arguments or the ratio of abductive arguments. See Figure 2. This pattern is similar to the one observed in the data from our 3-word dataset.

Figure 2. Ratios of deductive, inductive, and abductive arguments in search results permitting six words between argument indicator root and anchor by journal

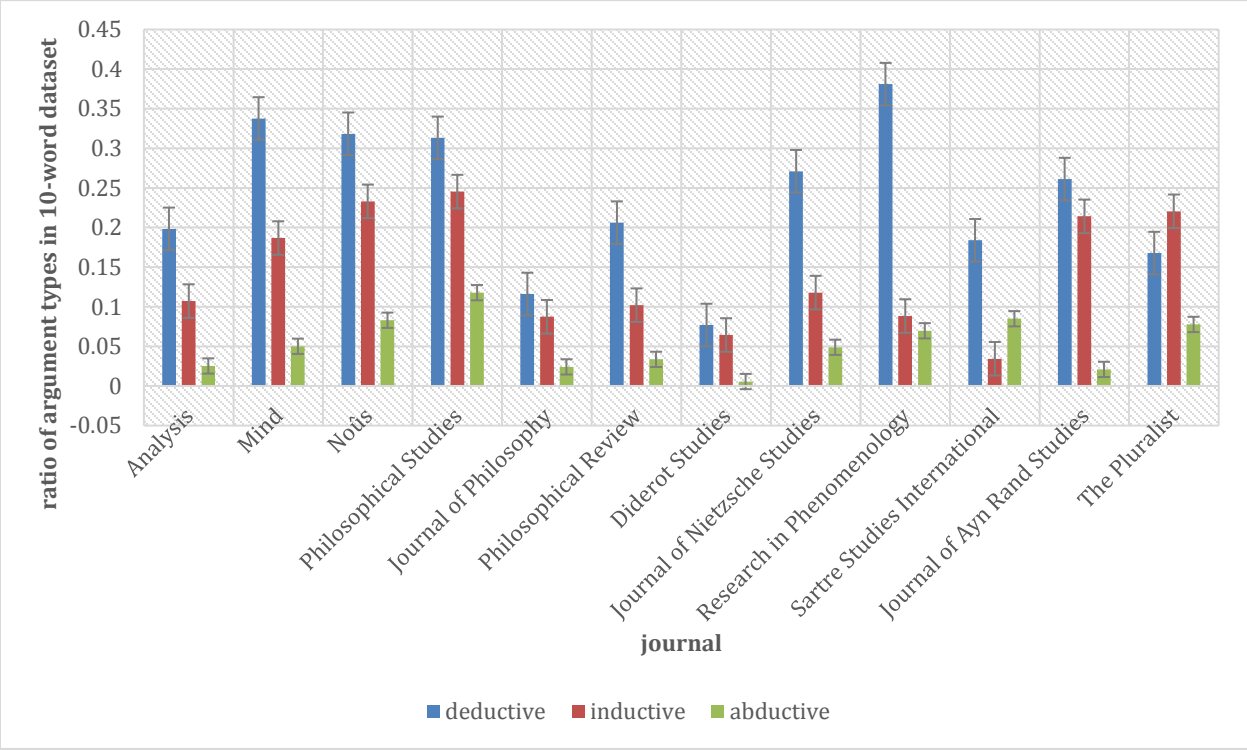


A Welch's t-test was conducted to compare the ratios of deductive arguments in AP journal articles and in CP journal articles from the results of searches allowing a 6-word maximum range. There was no significant difference between the ratios of deductive arguments in AP journal articles (M = 0.17, SD = 0.06) and the ratios of deductive arguments in CP journal articles (M = 0.15, SD = 0.07), $t(10) = 0.57$, $p = 0.58$. Likewise, a Welch's t-test was conducted to compare the ratios of inductive arguments in AP journal articles and in CP journal articles from the results of searches allowing a 6-word maximum range. There was no significant difference between the ratios of inductive arguments in AP journal articles (M = 0.11, SD = 0.04) and the ratios of inductive arguments in CP journal articles (M = 0.09, SD = 0.05), $t(10) = 0.71$, p

= 0.49. Finally, a Welch's *t*-test was conducted to compare the ratios of abductive arguments in AP journal articles and in CP journal articles from the results of searches allowing a 6-word maximum range. There was no significant difference between the ratios of abductive arguments in AP journal articles (M = 0.03, SD = 0.02) and the ratios of abductive arguments in CP journal articles (M = 0.02, SD = 0.02), $t(10) = 0.59$, $p = 0.56$. These results are consistent with the results obtained from our 3-word dataset. They suggest again that there are no significant differences between the types of arguments that are typically found in AP journal articles and the types of arguments that are typically found in CP journal articles.

In searches permitting ten words between argument indicator root and anchor, the ratio of deductive arguments is always higher than the ratio of inductive arguments or the ratio of abductive arguments, whether in AP journals or CP journals, with the exception of the CP journal, *The Pluralist*, in which the ratio of inductive arguments is higher than the ratio of deductive arguments or the ratio of abductive arguments. See Figure 3. Again, this is the same pattern observed in the data from our 3-word and 6-word datasets.

Figure 3. Ratios of deductive, inductive, and abductive arguments in search results permitting ten words between argument indicator root and anchor by journal



A Welch's *t*-test was conducted to compare the ratios of deductive arguments in AP journal articles and in CP journal articles from the results of searches allowing a 10-word maximum range. There was no significant difference between the ratios of deductive arguments in AP journal articles (M = 0.24, SD = 0.08) and the ratios of deductive arguments in CP journal articles (M = 0.22, SD = 0.1), $t(10) = 0.44$, $p = 0.66$. Likewise, a Welch's *t*-test was conducted to compare the ratios of inductive arguments in AP journal articles and in CP journal articles from

the results of searches allowing a 10-word maximum range. There was no significant difference between the ratios of inductive arguments in AP journal articles ($M = 0.16$, $SD = 0.07$) and the ratios of inductive arguments in CP journal articles ($M = 0.12$, $SD = 0.07$), $t(10) = 0.86$, $p = 0.4$. Finally, a Welch's *t*-test was conducted to compare the ratios of abductive arguments in AP journal articles and in CP journal articles from the results of searches allowing a 10-word maximum range. There was no significant difference between the ratios of abductive arguments in AP journal articles ($M = 0.05$, $SD = 0.03$) and the ratios of abductive arguments in CP journal articles ($M = 0.05$, $SD = 0.03$), $t(10) = 0.21$, $p = 0.83$. These results are consistent with the results obtained from our 3-word and 6-word datasets. They suggest again that there are no significant differences between the types of arguments that are typically found in AP journal articles and the types of arguments that are typically found in CP journal articles.

4. Discussion

As discussed in Section 1, some philosophers hypothesize that the so-called split or divide between Analytic Philosophy (AP) and Continental Philosophy (CP) has to do with the place of argument in these two philosophical traditions or camps. More explicitly, the hypothesis is that argument occupies a more important place in AP than in CP; that is, analytic philosophers respect argument more than continental philosophers do. Accordingly, our empirical study was designed to address the following research questions about the so-called "Analytic-Continental divide":

1. Is AP rife with arguments while CP is devoid of arguments? Or can different types of arguments be found in AP and in CP?
2. If different types of arguments are made in AP and in CP, which types of arguments are typically made in AP and which types of arguments are typically made in CP? Are there significant differences between the types of arguments typically made in AP versus those typically made in CP?

The results of our empirical study suggest the following tentative answers to these research questions. Our results suggest that articles published in both AP journals and CP journals contain arguments. Moreover, our data reveal no significant differences between the types of arguments advanced in articles published in AP journals and the types of arguments advanced in articles published in CP journals. In fact, both AP and CP journal articles contain the three types of arguments we have looked at, namely, deductive arguments, inductive arguments, and abductive arguments, with no significant differences in frequency. Since we have observed these patterns in our 3-word, 6-word, and 10-word datasets, we can be quite confident that these results are robust.

Our findings, then, provide no empirical support to the hypothesis that the so-called split or divide between AP and CP has something to do with the place of argument in these two philosophical traditions or camps. If anything, our findings could be reasonably construed as empirical evidence against this hypothesis. For, if the so-called split or divide between AP and CP had something to do with the place of argument in these two philosophical traditions or camps, such that AP is rife with arguments, whereas CP is devoid of arguments, then we would expect to see articles published in AP journals containing significantly more arguments than

articles published in CP journals. But that is not what we find. In fact, we have found that articles published in both AP journals and CP journals contain mostly deductive arguments, followed by inductive arguments, and then abductive arguments, with no significant differences in the frequencies with which these argument types occur in AP journal articles versus CP journal articles.

The interesting exception to these patterns, which again are quite robust as they are observed in our 3-word, 6-word, and 10-word datasets, is *The Pluralist*. Unlike the other philosophy journals examined in this empirical study, articles published in *The Pluralist* contain more inductive arguments than either deductive arguments or abductive arguments. Although the differences in the proportions of deductive arguments and inductive arguments are not statistically significant in the 3-word ($z = 0.14$, $p = 0.88$, two-sided), the 6-word ($z = 1.35$, $p = 0.17$, two-sided), and the 10-word ($z = 1.69$, $p = 0.09$, two-sided) datasets. The reason for this may have something to do with the fact that *The Pluralist* aims to publish works from a plurality of philosophical perspectives and traditions. As its official statement of aim and scope states:

> *The Pluralist* is a peer-reviewed journal dedicated to advancing the ends of philosophical thought and dialogue in all widely used philosophical methodologies, including non-Western methods and those of traditional cultures. The journal upholds the Socratic dictum of self-knowledge and the love of wisdom as the purpose of philosophy. It seeks to express philosophical insights and concerns humanely and with an eye to literary as well as philosophical excellence, but technical papers are welcome. *The Pluralist* is a forum for discussion of diverse philosophical standpoints and pluralism's merits. *The Pluralist* considers high-quality submissions on any philosophical topic written from any philosophical perspective. Articles that defend some type of pluralism, apply a pluralistic perspective to contemporary issues, or take a critical stance against pluralism are encouraged.[8]

It would be interesting to find out, we submit, whether other philosophy journals that encourage this sort of pluralism about philosophical perspectives, traditions, and methodologies also publish articles that advance more inductive arguments than deductive arguments or abductive arguments, as the traditionally AP or traditionally CP journals apparently do. We leave this question to future studies.

An anonymous reviewer kindly suggested another interesting avenue of further research. If we look at subfields within philosophy, would we find any significant differences in the types of arguments made within those subfields? We could do that by focusing on specialized (rather than general) journals that publish articles in some specific area within philosophy. For example, using the methods outlined in Section 2, we could collect data from ethics journals, such as *Ethics* and *Ethical Theory and Moral Practice*, and philosophy of science journals, such as *The British Journal for the Philosophy of Science* and *Philosophy of Science*, and then compare the datasets. Would we find any significant differences between the types of arguments made in articles published in ethics journals and those made in articles published in philosophy of science journals? We leave this question to future studies as well.

[8] Available at: https://www.press.uillinois.edu/journals/plur.html.

It is important to note that our empirical findings could be reasonably interpreted as constituting some negative evidence against the hypothesis that the so-called split or divide between AP and CP has something to do with the place of argument in these two philosophical traditions or camps, but they do not amount to a conclusive refutation of this hypothesis. This is because it is open to anyone who would like to challenge our empirical findings to reject any one of the methodological assumptions of our empirical study. For example, one could reject our methodological assumption that the indicator words listed in Table 1 are reliable indicators of abductive, deductive, and inductive arguments in philosophical texts, even though they are widely used as argument indicators in logic and philosophy textbooks.

5. Conclusion

Philosophy is often divided into two traditions or camps: Analytic Philosophy (AP) and Continental Philosophy (CP). Characterizing the so-called "Analytic-Continental divide," however, and explaining the differences between these two philosophical traditions is no easy task. Some philosophers have argued that the differences have to do with the place of argument in these two philosophical traditions. This raises the following questions: Is AP rife with arguments while CP is devoid of arguments? Or can different types of arguments be found in AP and in CP? If so, which ones?

Using data mining and text analysis methods, we studied a large corpus of philosophical texts mined from the JSTOR database (n = 53,260) in order to address these questions empirically. Using indicator words to classify arguments by type (deductive, inductive, and abductive arguments), we searched through our corpus to find patterns of usage. Overall, the results of our empirical study suggest that there are no significant differences between the types of arguments advanced in AP journal articles and the types of arguments advanced in CP journal articles. In fact, articles published in both AP and CP journals contain the three types of arguments we have looked at, namely, deductive, inductive, and abductive arguments, with no significant differences in frequency. Our findings, therefore, provide no empirical support to the hypothesis that the so-called split or divide between AP and CP has something to do with the place of argument in these two philosophical traditions or camps.

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