# Bibliometric Analysis
# of the Phenomenology Literature

**Pablo Contreras Kallens and Jeff Yoshimi**

Phenomenology studies the structure and significance of conscious experience, or human existence, or *being* (terminology varies and there are definitional disputes; see Dreyfus, 1991). It is associated with several philosophical movements, including existentialism, post-structuralism, and Continental philosophy broadly, which emphasize human subjectivity, agency, and meaning; embeddedness in historical and social structures; and alternatives to scientific reasoning as a basic mode of access to knowledge. Phenomenology is often thought of as being organized around specific philosophers (e.g., Husserlian phenomenology, Heideggerian phenomenology, and Merleau-Pontyan phenomenology), or into regional or linguistic groups (French phenomenology, German phenomenology, Anglo-American phenomenology). It can also be organized by topic (phenomenology and race, embodiment, art, cognitive science, etc.). Some of these groupings can be further subdivided: for example, Husserlian phenomenology in America is sometimes divided into "West Coast" and "East Coast" schools of interpretation (Yoshimi et al., 2019) and several schools of Heideggerian and Merleau-Pontian phenomenology can be distinguished (Muller, Chapter "The Landscape of Merleau-Pontyan Thought" and Zangeneh, Chapter "Heideggerian Phenomenology", this volume; also see Sheehan, 2001).

It is not clear to what extent these divisions are reflected in the organization of work done within the field, as expressed by patterns of communication between authors. To assess this, we analyze the phenomenology literature using bibliometric methods (Osareh, 1996). This makes it possible to supplement an intuitive understanding of its structure with an empirically grounded analysis of citation patterns. In particular, we extract an *author-wise* citation network (Radicchi et al., 2012) for

P. Contreras Kallens
UC Merced, Merced, CA, USA

Cornell, Ithaca, NY, USA

J. Yoshimi (✉)
UC Merced, Merced, CA, USA
e-mail: jyoshimi@ucmerced.edu

the published phenomenology literature, a network of nodes and connections, where nodes correspond to authors of articles or books about phenomenology, and connections correspond to citations from one author to another. The resulting graph has 11,980 nodes and 69,324 connections.[1] We then study *clusters* in this network, that is, groups of authors who cite each other more than they cite authors in other clusters and compare this more bottom-up image of communication dynamics within the field to the different sub-groups identified in expert historical reconstructions.

We begin by considering how phenomenologists themselves describe the structure of the literature, drawing on the contents of anthologies, syllabi, and other sources. We then describe the author-wise citation network. We show that the self-descriptions and the citation network agree on large patterns—in particular, the idea that Husserl, Heidegger, and Merleau-Ponty are major organizing figures. We also show that there are interesting discrepancies between the two. We then recursively apply these methods to the Husserl, Heidegger, and French phenomenology literatures, to identify citational sub-clusters of those groups. Finally, we discuss the strengths and limitations of this type of research, and survey some of the many potential directions for further research.

## 1 Self-Understanding of the Phenomenology Literature

The self-understanding of a scholarly literature can be documented in several ways. Direct evidence is available via published accounts of the literature and qualitative interviews with practitioners. However indirect evidence is also available in anthologies, introductory texts, syllabi, and curated databases, which reflect expert decisions about how to present and organize the structure of that field. For example, Kuhn (1962) saw textbooks as reflecting the current paradigm in a scientific discipline, guiding students' perceptions of relevant problems and consensus viewpoints about valid attempts to solve those problems (e.g., Kindi, 2005).

We first considered anthologies about phenomenology. We focused on sources organized around authors since anthologies organized in other ways did not produce clear patterns. Our search yielded 6 such anthologies published since 2000.[2] We then considered their chapter headings. Those authors who appeared in chapter headings of more than two of these anthologies are shown in Table 1.

---

[1] The terms "node" and "vertex" are used equivalently in what follows, as are "link", "connection", and "edge"; and "network" and "graph".

[2] The anthologies used were: (Moran, 2000; Solomon, 2001; Lewis & Staehler, 2010; Luft & Overgaard, 2013; Grossman, 2015; Käufer & Chemero, 2015). To find these sources we searched Google scholar in Summer 2020 using the following phrases, without quotes: *phenomenology anthology*, *introduction phenomenology*, and *companion phenomenology*. In each case we considered the first 10 pages of results and focused on edited volumes and introductory texts with section titles keyed to named figures. We omitted anthologies organized only by topic (intuition, evidence, existential phenomenology, intersubjectivity, etc.) or focused on specific figures (e.g. Husserl) or applications of phenomenology (media, science, literature, religion, mind, etc.).

**Table 1** Authors appearing in chapter headings of three or more anthologies about phenomenology, ordered by their number of appearances

| Author | Appearances |
| --- | --- |
| Husserl | 6 |
| Heidegger | 6 |
| Sartre | 6 |
| Merleau-Ponty | 5 |
| Brentano | 5 |
| Levinas | 3 |
| Derrida | 3 |

**Table 2** Authors appearing in three or more phenomenology syllabi, ordered by their number of appearances

| Author | Appearances |
| --- | --- |
| Husserl | 17 |
| Heidegger | 16 |
| Merleau-Ponty | 14 |
| Sartre | 9 |
| Beauvoir | 4 |
| Brentano | 4 |
| Fanon | 3 |

Second, we searched for syllabi of introductory phenomenology courses, again with a focus on phenomenology courses organized around authors (as the majority were).[3] Syllabi for 17 phenomenology courses taught after 2000 were identified.[4] In each syllabus, we tallied every phenomenologist discussed as part of a section of the course or included as required reading. Authors that appeared in at least 3 of the syllabi appear in Table 2.

Third, we consulted the PhilPapers database, a comprehensive index of research content in philosophy. Within each research area of the database, section titles and organization are hand-curated by professional philosophers with relevant expertise. The section on phenomenology is curated by Ammon Allred of the University of Toledo. The top-level categories of the phenomenology section with the most associated references are Husserl (14,000), Heidegger (10,000), Merleau-Ponty (3000),

---

[3] We searched using the phrase "phenomenology syllabus" (no quotes) and identified 17 syllabi from the first 10 pages of results. We focused on syllabi where "phenomenology" was in the title of the course and excluded courses on some more specific topic like "eco-phenomenology", "Husserlian phenomenology", or "cognitive phenomenology". We also excluded syllabi for proposed courses and courses without a named instructor.

[4] The syllabi were from CSU Northridge, CUNY Albany, Dickinson, Elon, Fordham, George Mason, Georgetown, George Mason, Guelph, Kentucky, SUNY Newpaltz, UC Berkeley, UC Los Angeles, UC San Diego, University of Nebraska, University of San Francisco, and UT Arlington.

and Levinas (2000). Allred's introduction organizes the field around the work of Husserl and Heidegger:

> The historical movement called phenomenology is generally regarded as beginning with Edmund Husserl, who made phenomenological questions central to his entire philosophical approach, arguing that a phenomenological investigation of consciousness should ground philosophy construed broadly as well as the sciences. Under the influence of a second generation of phenomenologists, most famously Martin Heidegger, the centrality of consciousness was often called into question. Nonetheless, the name phenomenology continues to be used to describe the whole tradition that developed out of this Husserlian/Heideggerian framework.

Allred goes on to refer to Stein, Scheler, Merleau-Ponty, and Derrida.

Similar statements occur in encyclopedia entries on phenomenology and in introductory texts, but we did not perform a comprehensive review of these sources. We will consider some of what phenomenologists themselves have said about particular sub-literatures of phenomenology when we turn to that topic below.

## 2  Bibliometrics and Scientometrics

Bibliometrics is "the application of mathematics and statistical methods to books and other media of communication" (Borgman, 1989). It is closely related to scientometrics, the "science of science", which applies the concepts and techniques of bibliometrics to scientific communication (Braun et al., 1985; Garfield, 2009; Mingers & Leydesdorff, 2015). One use of these methods is to produce quantitative measures of journals, scholars, articles, books, disciplines, and research areas. Examples include impact factor (based on the yearly average of citations of a journal) as a measure of journal quality, and the *h*-index (based on an author's publications and citations of these works) as a measure of researcher productivity. Within these broad areas, we focus on citation analysis, which studies patterns of citation between documents, authors, journals, and other entities.[5]

Citation networks are graphs, that is, collections of nodes and links between those nodes, which represent patterns of connections (in this case, citations) between documents, people, or research areas (the nodes of the graph). We focus on an *author-wise citation network*, where nodes correspond to authors and links between nodes correspond to citations between authors. Moreover, our network is *directed,* reflecting the fact that citation is an asymmetric relation: a citation from author $a_1$ to author $a_2$ does not imply a corresponding citation from $a_2$ to $a_1$. Furthermore, these connections are weighted: each link has a magnitude corresponding to the number

---

[5] They have existed "Since the pioneering work of Derek de Solla Price (1965), who realized that bibliographic data have a natural mathematical representation in terms of directed graphs" (Radicchi et al., 2012, p. 233). Other kinds of relations are studied, including co-authorship relations, where two documents are linked if they have the same author, and co-citation networks, where two articles are linked if they both cite a common source.

of times that particular author-to-author citation occurs in our data; in other words, our graph reflects not only that $a_1$ cited $a_2$, but also the number of times they did so. For example, the weight of the link from "Yoshimi J" to "Husserl E" in our data is 8, which indicates that Yoshimi cites Husserl 8 times. This example also makes it clear that these links are asymmetrical: Yoshimi cites Husserl, but Husserl does not cite Yoshimi.

In the remainder of this section, we review some of the techniques we use to study author-wise citation networks.

First, at the level of individual nodes, we consider the properties of authors in the graph. The *in-degree* of a node is the total number of nodes that are connected to it. For an author in our dataset, this corresponds to the total number of unique authors who cite them, regardless of how many times they have been cited. In contrast, the *strength* of a node corresponds to the number of times an author has been cited in the dataset, which is represented by weighted in-degree, that is, the sum of the weights from all the nodes connected to it (therefore, strength is generally higher than in-degree, as each author considered for the in-degree calculation necessarily contributes to strength by at least 1). These metrics are used in the tables in the rest of this paper to indicate how prominent authors are in the dataset, in terms of how many people cite them and how often they are cited.

Citation graphs can help to represent groups or "communities" of researchers who frequently cite each other's work (we will use the terms "group", "cluster", and "community" synonymously). Community detection methods identify groups of nodes in a graph which are more densely connected to each other than they are to other groups. In this case they detect groups of authors who tend to cite one another frequently. The whole graph can then be thought of as a collection of sub-graphs, each representing a community of nodes more densely connected to each other than to the rest of the network. Community detection algorithms work in many ways and there is not yet a consensus on how to determine which method is best for specific applications.[6] We used the "Louvain" method (Blondel et al., 2008), which is easier to interpret than some of the alternatives, though future work may suggest reasons to prefer other methods.[7] The Louvain algorithm assigns individual nodes to different communities by optimizing the *modularity* of the graph, which refers to the proportion of within-community links as compared to between-community links. The more "community-like" a network is, the higher its modularity. Because the

---

[6] Cut-based or "clique" methods try to find communities which are as disconnected from each other as possible, e.g. groups of authors who cite each other but do not cite authors in other groups. Dynamical methods involve imagined "walks" through the network from one author to another cited author. Communities are then groups of authors that such an itinerant reader would tend to stay within over time. For a more detailed description of these and other methods, see (Fortunato, 2010).

[7] We ran all of the available algorithms in the *R* (R Core Team, 2020) *igraph* (Csardi & Nepusz, 2006) package on the network, with generally poor results (e.g. one large community or many small ones). Two exceptions are Spinglass and Walktrap, which may be worth further analysis. Fast-greedy (an optimized variant of the Louvain method) produces results nearly identical to Louvain.

Louvain algorithm depends on an initial random assignment of a community to all nodes, the results are not strictly deterministic. The specific version we used is included in the network analysis package *igraph* (Csardi & Nepusz, 2006) for *R* (R Core Team, 2020).

We also produced a direct visualization of our citation graph. A visualization of a graph is a "graph embedding". As with community detection, there are several ways to perform a graph embedding, and they are generally non-deterministic. Their main goal is to represent connectedness (in the sense of number of edges between nodes) as distance in a visualized network; the more connected two nodes are, the closer they should be in the visualization (on "distance-based" visualization, see (van Eck & Waltman, 2014)). We use a "force directed layout", *OpenOrd* (Martin et al., 2011), which achieves this goal by treating edges as springs. Edge weights are used to determine spring stiffness, so that authors who cite each other more are pulled toward each other. There is also a small repulsive force between nodes which ensures they do not end up on top of each other. The relative equilibrium state of these forces reflects a balance between pulling groups of densely connected nodes towards each other and a visually appealing "spread" of nodes within groups.

Note that a force directed layout like OpenOrd and a community detection algorithm like Louvain correspond to two distinct ways of representing community structure. In our study, the first uses spatial position to represent communities (communities are "pulled together" by citations), and the second uses color (communities are groups of nodes with the same color). A set of colored nodes organized using a force-directed layout thus allows for comparison between the two techniques. To the extent that the two methods agree, points of the same color will be spatially near each other. Combination plots like this can produce a kind of center/periphery structure. Authors at the "center" of communities tend to cite and be cited by members of their community. Authors on the "edges" of their communities are more "hybrid", frequently citing and being cited by authors in other communities.

## 3   The Structure of the Phenomenology Literature

In this section we describe how we obtained and filtered our data, how we analyzed it using the bibliometric methods described above, and summarize the main results of our analysis. All the code and data we used are available on a public code repository.[8]

---

[8] https://github.com/jyoshimi/scientometrics. All results in this paper are reproducible using the code there. High resolution color versions of Figs. 1 and 2, in pdf and svg format, are also available in the "Figures" directory.

## 3.1 Methods

We searched Web of Science (WoS) for journal articles whose *topic* field contained the word "phenomenology" in the years 1900–2020, yielding 5869 results.[9] The topic field is based on an article's title, keywords, and abstract. Since articles in all languages must include an English-language abstract for indexing purposes, articles in multiple languages were returned.[10] The results were, nonetheless, primarily in English, reflecting a well-known Anglophone bias in public indexing systems (e.g., Baneyx, 2008). These results were further filtered to only include journal articles in philosophy (this removed tens of thousands of results, many of them using the word "phenomenology" in the technical sense of physics and other sciences). The word "phenomenology" occurring in the topic field of a philosophy article is thus our operational definition of an item in this dataset being "about" phenomenology.

The results were in some ways skewed. Journals like *Phenomenology and the Cognitive Sciences* are heavily represented in the Web of Science dataset while such journals as *Heidegger Studies* and *Research in Phenomenology* are not.[11] Early readers of this manuscript highlighted several biases this introduces, for example a skew towards "syncretic" approaches to Heidegger that emphasize connections to other areas of philosophy (Zanganeh, Chapter "Heideggerian Phenomenology", this volume).[12]

Moreover, even though over 100 years of articles were extracted, the results are heavily weighted towards recent work, which is better indexed by WoS, resulting in a sparse representation of the primary literature in phenomenology (see Fig. 1). However, WoS still provides a useful avenue for initial exploratory analysis, as its strict requirements for indexing ensure that the included references have a homogeneous structure, including information about citations to other sources provided in a consistent format. For instance, all journals indexed in WoS are required to have

---

[9] "Web of Science" was previously "Web of Knowledge". See http://apps.webofknowledge.com/ Accessed on June 17, 2020.

[10] English (3523), Spanish (676), French (395), German (295), Russian (231), Italian (190), Portuguese (141), Czech (138), Slovak (62), Lithuanian (57), Slovene (41), Chinese (39), Dutch (34), Croatian (28), Polish (6), Catalan (4), Ukrainian (4), Unspecified (3), Turkish (2).

[11] 581 Journals are in the dataset. Journals containing more than 1% of the data, along with number of articles they contain, are: *Phenomenology And The Cognitive Sciences* (176), *Investigaciones Fenomenologicas* (166), *Journal Of The British Society For Phenomenology* (149), *Eikasia-Revista De Filosofia* (141), *Continental Philosophy Review* (137), *Studia Phaenomenologica* (134), *Filosoficky Casopis* (125), *Horizon-Fenomenologicheskie Issledovaniya* (112), *Husserl Studies* (112), *Journal Of Consciousness Studies* (105), *Philosophy Today* (101), *Voprosy Filosofii* (100), *International Journal Of Philosophical Studies* (86), *Research In Phenomenology* (83), *Phainomena* (79), *Filozofia* (77), *Tijdschrift Voor Filosofie* (62), *Philosophy And Phenomenological Research* (59).

[12] One reader noted: "For Heidegger scholarship the main venues have been *Heidegger Studies* and especially *Gatherings* (the journal of North American Heidegger circle). For Merleau-Ponty the clear leading venue for scholarship is *Chiasmi*."
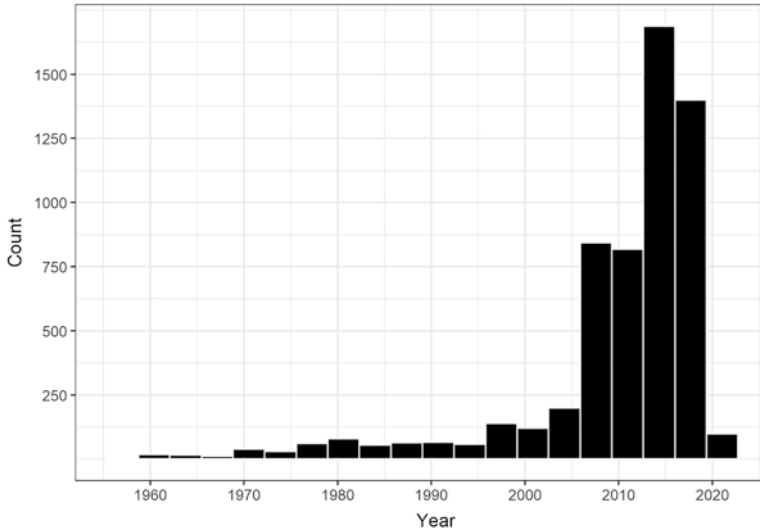
**Fig. 1** Histogram showing number of sources in the dataset by year. Mean year of publication is 2010, with a standard deviation of 10 years. The data is clearly biased towards more contemporary work, occurring in journals indexed WoS

an English-language title, an abstract, and Roman script information about the authors, affiliations, and references.

For multi-authored articles only the first author was used. Authors were represented in a standardized last-name/first-initial format. These names were manually cleaned up by creating a table in which author names listed in WoS citations were mapped to standardized names. For example, "Aristotle" is written differently in different languages, and his name is sometimes misspelled in the database (variations include "Aristotel", "Aristote", and "Aristóteles"). Over 50 separate terms were mapped to "Merleauponty M". In some cases, books or article references were listed instead of authors, e.g., citations to "Hua", or "Husserliana" (standard abbreviations for Husserl's collected works). These canonical literature references were mapped to their corresponding author, e.g., "Hua" was mapped to "Husserl E". After mapping all author entries to standardized names, further filtering was performed. Authors only cited once were removed, and authors who only cited these single-citation authors were also removed.

This filtered data was used to create a list of edges, represented as triples of the form "(source name, target name, citation count)", for example "(Yoshimi J, Husserl E, 8)", indicating 8 instances of Jeff Yoshimi citing Edmund Husserl in the data set. This list of individual connections between authors was converted to a citation network using the R package *igraph* (Csardi & Nepusz, 2006). The resulting graph contains 11,980 nodes (authors) and 69,324 directed weighted connections between nodes (citation counts between authors).

Because the concepts behind the Louvain method for community detection do not easily apply to directed graphs, we merged citing and cited authors into the same level when detecting communities. The community detection procedure was thus applied to an undirected version of the graph, that is, a graph where the directions of citations were ignored (in such a graph, citations from author $a_1$ to $a_2$ are not distinguished from citations from $a_2$ to $a_1$). This is one source of differences between the force-directed layout of the nodes visible as spatial position in Fig. 2 and the community structure analysis visible as color in that figure.

Note that authors who did not write directly about phenomenology can appear in the graph because they are cited by someone who did write about phenomenology. In a similar way, although nobody writing prior to 1900 should appear in the dataset as a citing author,[13] authors writing prior to 1900 do appear, e.g., Aristotle, Plato, and Kant, because they are cited. Emergent patterns in this data can also reflect connections between older authors: authors who are not directly connected can nevertheless be connected through an author who cites both.

## 3.2   Results

Table 3 shows a list of authors in the total dataset, ordered by the number of citations they received (strength), which gives some sense of their prominence in the data.

We ran the Louvain community detection algorithm on the dataset to identify groups of authors who tend to cite each other more than authors in other clusters. This produced 19 clusters. The six largest, in terms of total citations, are shown in Table 4.[14] Each cluster is discussed in the next section, where the labels we chose are also motivated. We will refer to clusters using all caps labels, for example using "HEIDEGGER" as shorthand for "The Heidegger cluster". We also perturbed the data and re-ran the analysis to confirm that none of these results were artifacts of the randomization associated with the Louvain algorithm. In no case were the results substantially altered, though minor changes did occur, particular in the smaller clusters.[15]

---

[13] There are exceptions, as some of the journals include republished older material and translations. An example from our dataset is (Husserl, 1998), a translation of several essays from a 1921 manuscript published in *Continental Philosophy Review* in 1988. These publications are, however, rare. There are eight for Husserl and one for Heidegger.

[14] Top authors of the remaining communities are (with size in parentheses): Fuchs (768), Schutz (395), Peirce (270), Bakhtin (266), Stein (228), Ortega y Gasset (195), Richir (158), Wittgenstein (109), Dussel (106), Cheyne (85), Demeterio (9) and Lapshin (2).

[15] For example, Wittgenstein sometimes formed into a larger cluster, drawing in Schutz, Ryle, Ihde, Heelan, Cavell, and Hacking (who otherwise are in the Schutz, Husserl, Peirce, or Merleau-Ponty clusters).
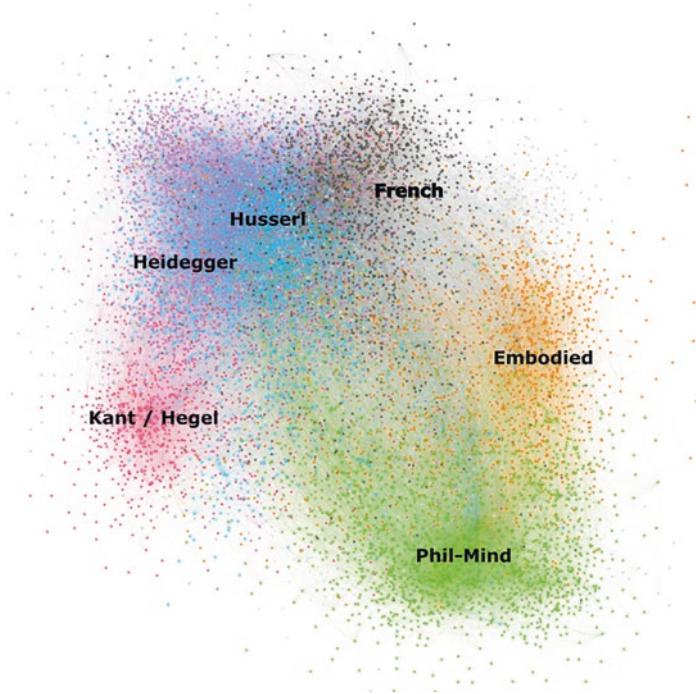
**Fig. 2** The graph embedding of the entire dataset, laid out using OpenOrd, and colored using the Louvain algorithm. Each dot corresponds to an author. Dots that are near each other have been "pulled" near each other by citations, which are treated like springs by the layout algorithm. Dots are colored by which community they are in. Communities are hand-labelled (the choices for labels are justified in the main text). To prevent the visualization from becoming too crowded, we only colored and labeled the six major clusters

**Table 3** Most cited authors, ordered by total number of citations (strength). Number of unique citing authors (in-degree) is also shown

| Author | Strength | In-Degree |
|---|---|---|
| Husserl | 3796 | 1550 |
| Heidegger | 1999 | 1122 |
| Merleau-Ponty | 1585 | 909 |
| Kant | 687 | 516 |
| Ricoeur | 640 | 414 |
| Hegel | 639 | 407 |
| Derrida | 638 | 410 |
| Levinas | 631 | 384 |
| Sartre | 616 | 427 |
| Zahavi | 529 | 372 |

**Table 4** The six largest clusters ordered by total citations (strength), along with number of authors (size), number of unique citing authors (in-degree), and the top 10 most cited authors. Cluster labels are motivated in the main text

| Cluster | Husserl | Heidegger | Phil-mind | French | Embodied | Kant/Hegel |
|---|---|---|---|---|---|---|
| Total strength | 19,061 | 15,845 | 15,808 | 10,736 | 8718 | 7384 |
| Total in-degree | 13,734 | 12,186 | 13,166 | 8528 | 7112 | 6193 |
| Size | 1686 | 2056 | 1975 | 1640 | 1458 | 1125 |
| Top 10 members | Husserl Zahavi Scheler Fink Bernet Brentano Spiegelberg Steinbock Sokolowski Drummond | Heidegger Ricoeur Derrida Levinas Gadamer Marion Henry Patočka Nietzsche Descartes | Dennet Searle Chalmers James McDowell Horgan Tye Fodor Clark Nagel | Merleau-Ponty Sartre Foucault Deleuze Waldenfels Barbaras Bergson Freud Butler Lacan | Dreyfus Gallagher Varela Thompson Noë Depraz Gibson Damasio Dewey Sheets-Johnstone | Kant Hegel Habermas Taylor Adorno Marx Hyppolite Cassirer Pippin Fichte |

Figure 2 shows the graph embedding of the entire dataset combined with the results of the community structure analysis. The nodes are arranged using the force-directed algorithm OpenOrd such that the distance between two nodes is proportional to their degree of connectedness; moreover, each node was colored using the Louvain community detection algorithm. Labels for the six largest clusters were placed by hand near the center of mass of each cluster. As discussed above, using both methods makes it possible to compare the results of these two community detection methods. Cases where dots near each other are the same color show where the layout and the community detection algorithm agree; cases where dots of different colors are near each other show cases where the two algorithms disagree. A center-periphery structure is evident in all of the clusters, with some same-colored dots pulled near each other by OpenOrd, reflecting the "core" of a cluster, comprising authors who primarily cite each other in the dataset. Some same-colored dots are further away from this center and more dispersed, reflecting authors with more diverse citational practices, who are also cited by authors in other clusters. Notice that the center of the figure contains a mix of different colors, reflecting authors producing more "hybrid" citations.

Since OpenOrd is non-deterministic, we performed multiple runs to ensure that the results we report are robust. Each time we ran it, the main topological features shown in Fig. 2 persisted, though the actual locations and shapes of the main clusters varied. HUSSERL, HEIDEGGER, and FRENCH always overlapped in a large "supercluster"; EMBODIED was always between that supercluster and PHIL MIND, and both PHIL MIND and KANT/HEGEL were always relatively isolated from the other main clusters. We provide some interpretations of these features of the dataset below.

Since it is difficult to make out details in Fig. 2, Fig. 3 shows a smaller graph in which communities themselves are represented as nodes and are positioned using a circular layout. Colors continue to represent communities, and links are colored according to their source community. The links between communities are directional and indicate the number of citations from authors in the source community to authors in the target community. For example, the link going from HUSSERL to HEIDEGGER is associated with a weight of 2127, which means that there are 2127 citations from authors in the HUSSERL community to authors in the HEIDEGGER community. Link widths are scaled according to this number. Note that, in this case, no spatial algorithm was used for the layout, so the distances between the nodes are arbitrary.
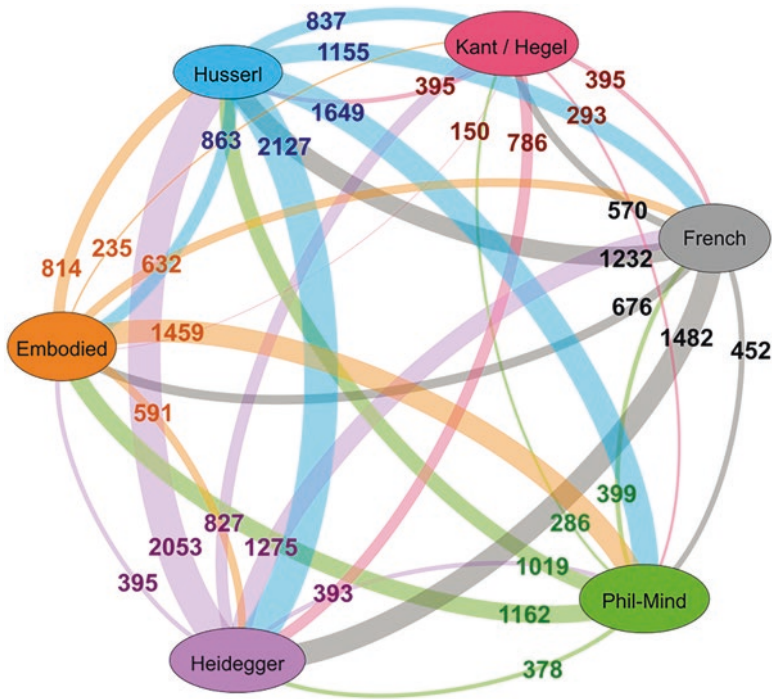


**Fig. 3** An alternative presentation of the data that only shows communities. The same colors are used as in Fig. 2 to represent the clusters, but clusters are now represented by single oval-shaped nodes. Links between nodes indicate the number of citations from authors in one cluster to authors in another. Links are colored by their source node. This makes it easy to see, for example, that HUSSERL and HEIDEGGER authors cite each other much more than HEIDEGGER and PHIL MIND scholars do, for example, which explains why the HUSSERL and HEIDEGGER clusters are closer to each other in Fig. 2 than the HUSSERL and PHIL MIND clusters are. To make the visualization more easily interpretable, we only show the six major clusters in the dataset

## 3.3   Discussion

We first consider the node attributes shown in Table 3, which largely match the field's self-understanding. Husserl, Heidegger, and Merleau-Ponty are the three most cited authors in the dataset (see Table 3) and are among the top 4 most referenced authors in syllabi, anthologies, and introductory texts. Sartre, Derrida, and Levinas are also among the most cited authors, and appear frequently in anthologies and syllabi. On the other hand, there are discrepancies. Sartre is frequently treated as a canonical phenomenologist (third most referenced in anthologies and fourth in syllabi) but is the ninth most cited in the dataset, possibly reflecting a decline in interest in his work or the English-language bias of our sample.[16] Brentano, Beauvoir and Fanon are notable for appearing in syllabi but not as top cited authors in the citation data (they are the 28th, 120th, and 309th). In the case of Beauvoir and Fanon this may reflect recent efforts to diversify the curriculum, which are not yet evident in citational practice.[17] A related explanation might be their *interdisciplinary* appeal: both Beauvoir and Fanon are known for their contributions to fields like gender studies, race studies, and cultural studies (Alessandrini, 2005; Simons, 2010), but less so for their contributions to phenomenology.

The six largest clusters in the dataset are shown in Figs. 2 and 3 and their top members and statistics are shown in Table 4. In the remainder of this section, we describe these clusters and their top authors in a qualitative way, comparing them with the results of the anthology and syllabus data presented in Sect. 1. In Sect. 4 we consider the three "core" phenomenology clusters in more detail.

The authors in HUSSERL are the most-cited authors in the dataset (both in terms of number of citations and number of citing authors). However, it is not the largest cluster: it contains fewer authors than HEIDEGGER or PHILOSOPHY OF MIND. Its top authors are primarily Husserl scholars. Zahavi, Bernet, Sokolowski, Moran, and Drummond are notable contemporary Husserl scholars. Others in this cluster were associates of Husserl. Brentano was Husserl's teacher and is often considered to be his most important influence (hence his presence in anthologies and syllabi). Scheler was an active member of the Munich and Göttingen circles, two groups of early scholars associated with Husserl, and a co-editor of the *Jahrbuch für Philosophie und phänomenologische Forschung*, a prominent early journal founded by Husserl for dissemination of phenomenological thought. Spiegelberg wrote an influential account of the phenomenological movement in the 1950s, that is organized around Husserl and discusses the early social networks and scholarship associated with Husserl (Spiegelberg, 1981).

---

[16] Rodney Parker (personal communication) offered the following explanation: "My guess would be that some sort of Anglo-American bias would account for both any decline in research that engages with his work and why he is not cited as much by English speakers. The received wisdom is that his politics made him quite unpopular in the US."

[17] A collection of resources on the topic is maintained by the American Philosophical Association: https://www.apaonline.org/page/diversity_resources

HUSSERL occupies a central position at the top of Fig. 2, between HEIDEGGER and FRENCH (short-hand for "French phenomenology", broadly construed to include Merleau-Ponty and Sartre and areas of largely Francophone philosophy inspired by phenomenology). The three clusters overlap heavily, as can be seen by comparing the force-directed layout—which aggregates these authors closely in terms of spatial position—and the Louvain algorithm, which was used to color the vertices purple, blue, and black. These three colors of vertex overlap, indicating that they are part of a larger supercluster. There are also numerous citations between these three clusters, evident in Fig. 3. This is suggestive of a classical phenomenology grouping, a "core phenomenology" supercluster that captures the canonical work of Husserl, Heidegger, Merleau-Ponty, Sartre, and others working within the phenomenological tradition, who are also the most cited authors in the syllabus and anthology data.

The HEIDEGGER cluster is the second-most cited cluster and also the largest, making up nearly 20% of the total dataset in terms of number of authors. This reflects the prominence of Heidegger in contemporary phenomenology. The cluster is more variegated than HUSSERL: in addition to Heidegger scholars, it contains philosophers associated with other schools such as Gadamer, Ricoeur, Derrida, Levinas, Henry, and Marion. This is perhaps most obvious in the case of Derrida, known more for his work on deconstructive approaches to literary criticism than for his work in phenomenology.[18] Gadamer, Ricouer, Levinas, Henry, and Marion are also arguably founders of schools in their own right; these are discussed further in 4.2. Historical figures often cited alongside Heidegger also appear in the cluster: Descartes, Aristotle, Plato, Kierkegaard, and Nietzsche.

Descartes' presence is an example of what we will call "oppositional clustering", a tendency of clusters to combine authors who cite each other as part of a critical engagement. Heideggerian phenomenology is openly anti-Cartesian, and Heideggerians often cite Descartes as an opponent (Dreyfus, 1991). That Descartes shows up with Heidegger rather than Husserl, who was famously Cartesian (Husserl, 2013), shows that the negative act of citing an opponent can produce more citations than the positive act of citing an ally. As one reader noted, justifying a critique of an opposing view sometimes requires more citations than giving credit to a friendly view.

PHILOSOPHY OF MIND is the third-largest cluster, both in terms of total authors and citations. It is composed largely of contemporary philosophers of mind and cognitive science, who use the term "phenomenology" to refer to first-person, subjective processes. In the 1970s Nagel was among the first analytic philosophers to argue that first person experience was irreducibly subjective, describing bat echo-location as something that could be objectively described but never really understood by humans (Nagel, 1974). Searle, Dennett, Chalmers, Block, and Tye all wrote on consciousness during the wave of interest in consciousness that began in the late 1980s and early 1990s (Searle, 1992; Dennett, 1993; Block, 1995; Chalmers,

---

[18] Although Derrida's dissertation and earliest works were on Husserl (Derrida, 2003, 2010) and he maintained an interest in phenomenology throughout his career.

1995; Tye, 1995). Dennett was a vocal critic of the concept of consciousness in this period and his inclusion in the cluster is (at least in part) another instance of oppositional clustering. Horgan, Clark, Fodor, and McDowell are philosophers of mind who either address consciousness directly or are cited by others who do. James is a historical figure who introduced such seminal concepts as "the stream of consciousness" and was among the first to attempt to understand consciousness in a scientific way (James, 2007).

Authors in this cluster make some reference to the phenomenology literature but are primarily in conversation with other contemporary philosophers of mind. Consistently with these observations, the force directed layout (Fig. 2) places this group further away from the main phenomenology supercluster, as a separate "island". Authors in PHILOSOPHY OF MIND cite authors in the EMBODIED cluster (which is also focused on contemporary issues) more than authors in any other cluster in the dataset. There are relatively few citations in either direction between this cluster and HEIDEGGER or FRENCH (see Fig. 3). That PHILOSOPHY OF MIND is distinct from much of classical phenomenology is consistent with the self-understanding of the literature. These authors do not typically occur as chapter-headings in phenomenology anthologies or named sections of phenomenology syllabi. Many of these authors do appear in the PhilPapers database, but under separate headings, in particular "Philosophy of Consciousness."[19] However, there are a substantial number of citations to authors in HUSSERL, which may reflect Husserl's well known analytic orientation and status as a putative founder of analytic philosophy (Dummett, 1996; Walsh & Yoshimi, 2018).

The fourth largest cluster is FRENCH, as a shorthand for "French phenomenology", broadly construed to include authors working in phenomenology or in areas of Francophone philosophy inspired by phenomenology.[20] In Fig. 2, it appears as a third area of "core phenomenology" overlapping HUSSERL and HEIDEGGER. Further supporting the concept of a core phenomenology supercluster are numerous citations between these three clusters (Fig. 3). Merleau-Ponty and Sartre are the two most cited authors in this group, consistently with the dominance of Merleau-Ponty and Sartre in anthologies, syllabi, and introductory discussions of phenomenology. Many of the most-cited authors in this cluster (Merleau-Ponty, Sartre, Foucault, Deleuze, Bergson, Freud, Butler, and Lacan) also appear as top-level sub-categories of the PhilPapers page on Continental Philosophy. Several of the authors in this group (e.g., Barbaras and Waldenfels) are Merleau-Ponty scholars. The cluster also includes schools of thought that are distinct from but influenced by phenomenology. Butler, Deleuze, Foucault, and Lacan, for example are associated with poststructuralism, cultural studies, feminism, and continental psychoanalysis, respectively, all of which are subcategories of "Continental philosophy" in

---

[19] https://philpapers.org/browse/philosophy-of-consciousness

[20] As a reminder, the Louvain algorithm automatically produced the cluster, and we chose a cluster label that seemed best to describe the authors in it.

PhilPapers. Freud and Bergson were also influential historical figures in these areas. This cluster is discussed further in 4.3.

The fifth largest cluster, EMBODIED, encompasses philosophers of mind, psychologists, and cognitive scientists who emphasize the role of the body and environment in cognition, against more traditional conceptions focused on internal mental representations. Most of the top members of this group (Dreyfus, Gallagher, Varela, Thompson, Noë, Gibson, and Damasio) appear in the Stanford Encyclopedia of Philosophy entry on "Embodied Cognition" (Wilson & Foglia, 2017) and these same authors are mentioned in the top-level description of the PhilPapers category "Embodied and Situated Cognition".[21] Also included are key precursors to the embodied approach, in particular JJ Gibson and John Dewey.[22] Like PHILOSOPHY OF MIND, it is separated from the core phenomenology supercluster in Fig. 2, placed between PHILOSOPHY OF MIND and FRENCH. Authors in these three areas frequently cite each other (see Fig. 3), which is consistent with its status as a broadly analytic sub-field of the philosophy of cognitive science that also draws on ideas associated with Continental philosophy, French phenomenology and especially Merleau-Ponty.

KANT/HEGEL consists largely of Kant and Hegel scholars who are in some way linked to the phenomenological tradition. Kant was a key influence on all the major phenomenologists, but especially Husserl and Heidegger. Husserl's transcendental philosophy is explicitly Kantian (Kern, 1964). Heidegger wrote several important works on Kant (Heidegger, 1997a, b) and pursued a broadly Kantian transcendental project in his early work (Zangeneh, Chapter "Heideggerian Phenomenology", this volume). Though there are important links between Hegel and Heidegger (Boer, 2000), his major influence on phenomenology was via Kojève and Hyppolite, who gave lectures in France attended by Sartre, Merleau-Ponty and many other French intellectuals of the mid-twentieth century (Stone, 2017).[23] KANT/HEGEL also contains most of the major members of the Frankfurt School of critical theory (Adorno, Horkheimer, Habermas, Marcuse, and Lukács), all of whom drew on Hegel. The cluster also contains Marx, arguably Hegel's most famous and important reader, and among the primary sources of the Frankfurt school. These critical theorists drew on phenomenology, though often in a critical way, suggesting that their presence in the phenomenology dataset is due in part to

---

[21] https://philpapers.org/browse/embodiment-and-situated-cognition

[22] In their classic book on the topic, Lakoff and Johnson (also in this cluster, but not shown in the table) say "We want to honor the two greatest philosophers of the embodied mind… John Dewey, no less than Merleau-Ponty, saw that our bodily experience is the primal basis for everything we can mean, think, know, and communicate" (Lakoff & Johnson, 1999, p. xi). Moreover, it has been argued (see Lobo et al., 2018) that Gibson's work was influenced by Merleau-Ponty's ideas on the body and perception.

[23] One concern with this cluster was whether it was artifactual, given that the term "Phenomenology" occurs in the title of Hegel's major work, *The Phenomenology of Spirit*. To check this, we removed the 232 entries in the dataset that mention this book in their title, keywords, or abstract. This did have the effect of moving Kant to the HEIDEGGER cluster, but a Hegel cluster remained and was largely unchanged in its top authors.

oppositional clustering. Adorno, for example, was dubious about Husserl's account of the lifeworld as absolutely given and saw totalitarian possibilities latent in phenomenology, which for Husserl is a pure rational science of essences (Wolff, 2006). He also developed a Marxist critique of the Heideggerian/existentialist concept of authenticity (Adorno, 2002). Fichte and Schelling are associated with Kant and Hegel via the broader historical movement of German idealism. The cluster also contains such contemporary Kant scholars as Ameriks, Guyer, and Henrich, as well as Hegel scholars like Pippin and Houlgate (some of whom are outside of the range of the top 10 figures shown in Table 4).

## 4   The Internal Structure of Core Phenomenology

In addition to analyzing the phenomenology dataset as a whole, we also studied the three clusters within it comprising "core phenomenology": HUSSERL, HEIDEGGER, and FRENCH. As a reminder, all-caps names refer to clusters in the total dataset. In this section we treat each of these sets of authors and citations between them as datasets in their own right and identify clusters within *them*.[24] These sub-communities will not be written in all-caps but referred to in terms of their most-cited authors, e.g., "Scheler" within HUSSERL and "Butler" within FRENCH. We only report sub-communities containing more than 1% of the total number of authors in a dataset.

   We did not have as much data about the self-understanding of these sub-literatures as we did with phenomenology as a whole. However, descriptions of Husserlian, Heideggerian and French phenomenology exist. In addition to these descriptions, we also considered existing categories of the PhilPapers database and consulted experts in these areas.

### 4.1   *Husserlian Phenomenology*

We begin with the dataset derived from HUSSERL. As a baseline for comparison, we consulted several discussions of the scholarly landscape of Husserlian phenomenology (Spiegelberg, 1981; Bernet et al., 1993; Smith & Smith, 1995; Welton, 2000) as well as an extensive discussion of its North American reception (Ferri & Ierna, 2019). Welton refers to an earlier phase of Husserl scholarship focused on "exegesis and appropriation" and then describes two subsequent interpretive tendencies: an analytic reading focused on "detailed critical engagement, especially

---

[24]Another approach would have been to re-create a dataset using keywords like "Husserl", "Heidegger", or "Merleau-Ponty" instead of "phenomenology", which would amount to analyzing those as separate literatures, rather than looking inside these three clusters of the main citation graph.

with [Husserl's] theories of meaning, perception, and judgement" and a continental or deconstructive reading originating in Derrida's early work on Husserl. Welton mentions the following authors in association with these two camps:[25]

1. Analytic approaches. Tugendhadt, Theunissen, Smith, Føllesdal, Mohanty, Dreyfus, McIntyre.
2. Deconstructive approaches: Derrida, Levinas, Berger, Sartre, Ricouer.

The *Cambridge Companion to Husserl* (Smith & Smith, 1995) distinguishes several readings of Husserl, which can be thought of as sub-divisions of Welton's "analytic approach". Their discussion is focused on competing models of a specific technical notion in Husserl—the concept of "noema" (also see Smith, Chapter "Constitution Through Noema and Horizon: Husserl's Theory of Intentionality", this volume)—but they are also associated with broader interpretive tendencies:

1. Neo-phenomenalist model: Gurwitsch
2. Intentional object model: lngarden
3. Content-as-sense model: Føllesdal, Dreyfus, McIntyre, Miller, and D. Smith. These authors are also sometimes referred to as members of the "West Coast" or "California School" of Husserl interpretation (Yoshimi et al., 2019).
4. The aspect model: Sokolowski, Drummond,
5. Aristotelian: Mulligan, B. Smith, Willard

The clustering algorithm identified 12 communities in the HUSSERL dataset. These communities, labelled by their most cited authors, and listed in order of their size (number of authors) are: Husserl (352), Quine (273), Schuhmann (223), Zahavi (200), Mohanty (126), Brentano (123), Ingarden (91), Steinbock (87), Sokolowski (60), Hopkins (52), Ryle (42), Patzig (25) (Table 5).

   This dataset is notable for consisting almost entirely of Husserl scholars, whereas, as we will see, HEIDEGGER and FRENCH are more variegated.

   The largest group within HUSSERL is associated with Husserl himself and might be referred to as "textually" or "philologically oriented". The group contains the former directors of the Husserl archives in Leuven (Bernet and Melle), who are also the main series editors of *Husserliana*. They, along with Kern, Biemel, and Lohmar, have also edited individual volumes in the series. Welton is included in this group, consistently with his own reading of Husserl, which is focused on the "full scope" of Husserl's thought (Welton, 2000, p. 1), as represented not just in the published text but in the thousands of pages of unpublished manuscripts housed at the archives and collected in *Husserliana* volumes. This group also includes several of Husserl's own collaborators, like Fink and Landgrebe.

   The Scheler group contains authors associated with the "earlier phase of exegesis and appropriation" Welton refers to. It includes members of the Munich Circle

---

[25] Other authors besides these are mentioned by Welton, either as interlocutors in debates or as commentators on these readings.

**Table 5** Largest clusters in the Husserl data, in terms of numbers of authors (see main text for the cluster sizes)

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Husserl E | 1957 | Zahavi D | 215 | Quine W | 63 | Scheler M | 153 | Sokolowski R | 137 |
| Fink E | 175 | Drummond J | 141 | Becker O | 35 | Schuhmann K | 139 | Hart J | 65 |
| Bernet R | 173 | Gurwitsch A | 95 | Weyl H | 35 | Spiegelberg H | 109 | Brough J | 57 |
| Biemel W | 120 | Moran D | 85 | Tieszen R | 33 | Mulligan K | 55 | | |
| Kern I | 104 | Carr D | 85 | Carnap R | 28 | Reinach A | 49 | Brentano F | 141 |
| Lohmar D | 100 | Crowell S | 83 | Godel K | 24 | Geiger M | 30 | Frege G | 47 |
| Melle U | 95 | Smith D | 78 | Parsons C | 24 | Pfander A | 30 | Stumpf C | 45 |
| Landgrebe L | 93 | Luft S | 73 | Schlick M | 22 | Lipps T | 26 | Dummett M | 35 |
| Held K | 87 | Føllesdal D | 71 | Wang H | 21 | Meinong A | 26 | Rollinger R | 32 |
| Welton D | 57 | Smith B | 61 | | | Hartmann N | 23 | Bolzano B | 25 |
| | | | | Mohanty J | 121 | | | Deharo A | 24 |
| Ingarden R | 85 | Steinbock A | 113 | Cairns D | 93 | Hopkins B | 31 | Twardowski K | 24 |
| | | Holenstein E | 42 | Embree L | 36 | | | Geniusas S | 23 |
| Ryle G | 35 | Leibniz G | 38 | Farber M | 31 | | | | |
| | | Walton R | 38 | Edie J | 23 | | | | |
| | | Irlbarne | 26 | Behnke E | 21 | | | | |

Up to 10 authors are shown in each cluster, alongside the number of citations they received. Only authors with more than 20 citations are shown

(Scheler, Lipps, Pfänder) and Göttingen Circle (Reinach, Geiger),[26] as well as Spiegelberg, perhaps the first to document these early social networks surrounding Husserl. Ingarden and Stein were members of the Göttingen Circle, but Ingarden shows up as his own sub-grouping of HUSSERL, and Stein is lead author in a separate cluster of the entire dataset. Schuhmann, who is also associated with the archives and author of the only major source on the events of Husserl's life (Schuhmann, 1977) is also in the group.

The group containing Zahavi comprises a great deal of contemporary Husserl scholarship, and many of the authors listed by Welton as part of the analytic approach (Welton, 2000). In fact, members of all the competing schools listed in the *Cambridge Companion to Husserl* are grouped together in this cluster (Drummond, Willard, D. Smith), suggesting some oppositional clustering. Mohanty, who Welton groups with analytic readers, is in a separate cluster that includes earlier generations of largely American Husserl scholars, including Dorion Cairns, Marvin Farber, and James Edie.[27] Authors associated with Welton's "deconstructive" reading of Husserl (Derrida, Levinas, Sartre, Ricoeur) do not show up in HUSSERL at all, but rather in HEIDEGGER.

Other clusters are associated with separate lines of research related to Husserlian phenomenology. The Brentano cluster consists largely of early figures in analytic philosophy and philosophers emphasizing connections between Husserl and

---

[26] A history of the Munich and Göttingen circles is in Salice (2020).

[27] See (Ferri & Ierna, 2019), especially part II.

analytic philosophy. Dummett, for example, is notable for treating Husserl as a founder of analytic philosophy (Dummett, 1996), and Rollinger for emphasizing a tradition of "Austrian phenomenology" centered on Brentano, Husserl, and Meinong (Rollinger, 2013). The cluster led by Quine contains Tieszen, Weyl, Gödel, Parsons, and Becker, all philosophers of mathematics influenced by Husserl, or mathematicians associated with these philosophers (for an overview, see Tieszen, 2005).

The cluster containing Hopkins also emphasizes Husserl's approach to mathematics, with an emphasis on historical questions extending back to Plato about the status of numbers—the unity and multiplicity involved in grasping, say, the number three—as fundamental to phenomenology as a whole (Hopkins, 2011; Hopkins, Chapter "The Problem of the Unity of a Manifold in the Development of Husserl's Philosophy", this volume); the cluster includes the Plato scholar Jacob Klein, as well as Newton and Galileo. Authors in the cluster containing Steinbock emphasize Husserl's late "monadology" (Crowell, Chapter "*Grenzprobleme* of Phenomenology: Metaphysics", this volume), and "generative phenomenology" (Steinbock, 1995), according to which our sense of reality can be understood in terms of the associative genesis of meanings via Leibnizian "monads with windows" (Iribarne, 1991), and communal and historical meanings emerging from intersubjective structures across these monads (Steinbock, 1998).

## 4.2   Heideggerian Phenomenology

For the dataset derived from HEIDEGGER we had several sources to draw on as a baseline for comparison. Thomas Sheehan has written on the topic, and organizes Heideggerian phenomenology using a left-right political spectrum:

> (1) On the extreme right stands the ultra-orthodox interpretation which finds expression in the journal *Heidegger Studies*. This tendency is generally associated with the work of Friedrich-Wilhelm von Herrmann and the Heidegger *Gesellschaft* in Germany and with the Beaufret-Fédier-Vezin school of Heideggerians in France. (2) On the extreme left stands the rejectionist wing, much of it inspired by the revelations of Heidegger's scandalous involvement with the Nazis… (3) The center-right represents the orthodox position, comprised of scholars dedicated to getting Heidegger right, not unlike the "Dantisti" of Italian studies whose goal is a close reading of every line of the *Divina Commedia*… (4) On the center-left stand the liberal-assimilationists. Beyond getting Heidegger right, these scholars seek to put his work into dialogue with other contemporary philosophers and perhaps to amend or correct him in the process…. (Sheehan, 2001)

The specific authors Sheehan mentions in connection with these interpretations are:

1. Far right: von Herrmann, Beaufret, Fédier, Vezin
2. Far left: Caputo
3. Center right: Kisiel, van Buren.
4. Center left: Dreyfus.

We also have the work of Zangeneh (Chapter "Heideggerian Phenomenology", this volume), who organizes the field as follows:

1. Syncretic readings: Sallis, Scott, Schmidt, Dreyfus, Haugland, Olafson.
2. Scholarly genealogical readings: Biemel, Pöggeler, Courtine, Dastur.
3. Scholarly teleological readings. Schürmann, Granel, maybe Derrida, Mitchell.
4. Scholarly dual-phased readings. Richardson, (early) Sheehan, Grondin, Polt.

The algorithm produced 15 communities of the Heidegger literature. Ordered by number of authors (shown in parentheses), they are: Heidegger (408), Marion (241), Levinas (194), Henry (191), Derrida (164), Ricoeur (159), Patočka (122), Gadamer (103), Buber (100), Arendt (97), Otto (78), Kierkegaard (65), Nietzsche (64), Rorty (42), and Dilworth (28) (Table 6).

A central cluster is organized around Heidegger himself and prominent Heidegger scholars (more on this below), but the other main clusters are associated with philosophers who are arguably founders of schools of their own: Marion, Levinas, Henry, Derrida, Ricoeur, Gadamer, Arendt, Buber, Patočka, and Rorty.[28] Consistently with this idea, all of these authors except Henry appear as top-level subcategories of the PhilPapers category of "Continental philosophy". Derrida, founder of deconstruction, is grouped with deconstructionist thinkers such as Jean-Luc Nancy. Gadamer was a student of Heidegger's who became "the decisive figure in the development of twentieth century hermeneutics" (Malpas, 2018). Gadamer is grouped with his biographer Grondin. Marion and Henry both developed theological readings of Heideggerian phenomenology.

**Table 6** Largest clusters in the Heidegger data, filtered in the same way as Table 5

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Heidegger M | 969 | Marion J | 350 | Derrida J | 324 | Gadamer H | 162 |
| Aristotle | 93 | Janicaud D | 100 | Nancy J | 53 | Grondin J | 46 |
| Kisiel T | 68 | Caputo J | 79 | Lawlor L | 25 | | |
| Von Herrmann F | 45 | Chretien J | 50 | Critchley S | 25 | Patočka J | 141 |
| Poggeler O | 39 | Augustine | 41 | Bernasconi R | 24 | | |
| Dastur F | 38 | Romano C | 39 | | | Nietzsche F | 120 |
| Sheehan T | 30 | Lacoste J | 35 | Ricoeur P | 301 | | |
| Figal G | 28 | Gschwandtner C | 33 | Greisch J | 45 | Arendt H | 90 |
| Van Buren J | 27 | Kearney R | 32 | | | Agamben G | 47 |
| Dahlstrom D | 26 | Westphal M | 30 | Henry M | 243 | Taminiaux J | 29 |
| | | Blanchot M | 30 | Descartes R | 77 | | |
| | | | | Courtine J | 52 | Levinas E | 359 |
| Rorty R | 28 | Buber M | 22 | Kierkegaard S | 71 | Plato | 56 |
| | | | | | | Franck D | 32 |

[28] Of course, the distinction between a Heidegger scholar and a founder of a school influenced by Heidegger is a matter of degree.

Many of the authors in this group are oppositionally clustered, insofar as they have participated in a debate about these theological readings (Janicaud, 2000; DeLay, 2018).[29] Levinas was among the first French philosophers to recognize Heidegger's importance (Fagenblat, 2015) and went on to become a noted reader and critic of Heidegger (Drabinski & Nelson, 2015). The Levinas cluster contains Levinas scholars such as Franck and Peperzac. Arendt, Heidegger's student and critic of totalitarianism, is grouped with Agamben and Taminaux, contemporary philosophers who have engaged closely with her thought and, like Arendt, have a close association to political philosophy as well as phenomenology.

All the authors associated with Sheehan's "right wing" reading of Heidegger (von Herrmann, Beaufret, Kisiel, van Buren), and most of Zangeneh's scholarly readings (Courtine, Dastur, Mitchell, Richardson, Sheehan, Granel) are in the main Heidegger cluster, which is a philologically oriented group of scholars comparable to the cluster in the Husserl dataset including Husserl himself and the *Husserliana* editors.[30]

On the other hand, authors associated with the "left wing" and "syncretic" readings of Heidegger appear in other parts of the larger dataset corresponding to phenomenology as a whole, which is not surprising given that these readings emphasize connections to other philosophical topics and thus involve distinctive patterns of citation. Thus, Dreyfus, Haugeland, and Olafson are in EMBODIED, Scott is in FRENCH, Schmidt is in KANT/HEGEL, and Biemel is in HUSSERL. Others end up in other sub-clusters of the Heidegger cluster, including the "far left" Caputo in the Marion cluster and "syncretic" readers Sallis and Derrida in the Derrida cluster. Zangeneh's scholarly teleological readers of Heidegger appear in several places: Schurmann in the Nietzsche cluster, Granel in the Patočka cluster, and Grondin in the Gadamer cluster.

## 4.3   French Phenomenology

For the dataset derived from FRENCH, there are few discussions of the area as a whole which could be used as a baseline for comparison.[31] Thus, we primarily considered existing categories in the PhilPapers database. Moreover, for Merleau-Ponty scholarship we had comments provided by Robin Muller as she prepared her critical

---

[29] Consistently with this, most of the figures in the Marion cluster are associated with a debate about these theological readings. For example, a book on this debate, *Phenomenology and the "Theological" Turn: The French Debate* (Janicaud, 2000), includes discussions of Marion, Lacaste, Chretien, as well as Ricouer and Henry (who appear as leads of separate clusters).

[30] Minus a few authors who didn't appear more than once in the entire dataset (Vezin, Fedier).

[31] There are some discussions of specific topics, including Sartre scholarship (see the journal *Sartre Studies* and the PhilPapers category on "Sartre") and Merleau-Ponty scholarship (Muller, Chapter "The Landscape of Merleau-Pontyan Thought", this volume). A source we only became aware just as the article was going to press, which merits further study, is Dupont (2014).

survey of the Merleau-Ponty scholarship for this volume (Chapter "The Landscape of Merleau-Pontyan Thought"). She distinguishes the following approaches to Merleau-Ponty interpretation:

1. Philosophy of mind: Gallagher, Noë, Dreyfus, Marratto, Zahavi, Varela, Romdenh-Romluc
2. Engagement with classical phenomenology: Barbaras, Carbone, Johnson, Lefort, Foti.
3. Unified readings: Toadvine, Morris, Dillon, Hass.

Muller characterizes group 1 as drawing connections between Merleau-Ponty and contemporary philosophical work (compare Zangeneh's "syncretic readings" of Heidegger), with a focus on earlier texts, in particular *Phenomenology of Perception* (Merleau-Ponty, 2012). She also describes a division in this group between scholars like Zahavi who see a close affinity between Husserl and Merleau-Ponty and those like Dreyfus who instead see an affinity between Merleau-Ponty and Heidegger. Scholars in group 2 challenge classical Husserlian phenomenology and tend to emphasize Merleau-Ponty's later works in aesthetics and ontology. Scholars in group 3 develop a unified reading of Merleau-Ponty with a focus on ontology.

The clustering algorithm identified 13 clusters in the French phenomenology dataset, associated with: Merleau-Ponty (310), Butler (297), Deleuze (148), Sartre (133), Sobchack (125), Bachelard (124), Foucault (117), Freud (86), Waldenfels (76), Csordas (72), Grosz (54), Dufrenne (54), and Gilligan (29) (Table 7).

Two of the largest groups in this dataset correspond to Merleau-Ponty and Sartre, i.e., classical French phenomenology. The Sartre group is associated with Sartre scholars, such as Canguilhem, Gardner, and Flynn. The Merleau-Ponty cluster is associated with Merleau-Ponty scholars and schools of interpretation. In fact, the *entirety* of Muller's groups 2 and 3—representing two distinctive approaches to Merleau-Ponty scholarship—are combined (in part, we suspect, due to oppositional

**Table 7** Largest clusters in the French phenomenology data, filtered in the same way as Table 5

| Merleau-Ponty M | 704 | | Sartre J | 221 | | Butler J | 84 | | Waldenfels B | 65 |
|---|---|---|---|---|---|---|---|---|---|---|
| Barbaras R | 92 | | Canguilhem G | 23 | | De Beauvoir S | 68 | | Freud S | 62 |
| Dillon M | 38 | | Deleuze G | 102 | | | | | Lacan J | 47 |
| Casey E | 37 | | Bergson H | 71 | | Young I | 61 | | Lyotard J | 33 |
| Toadvine T | 34 | | Badiou A | 28 | | Irigaray L | 34 | | Bachelard G | 41 |
| De Saint-Aubert E | 30 | | Benjamin W | 27 | | Alcoff L | 33 | | Barthes R | 21 |
| Goldstein K | 24 | | | | | | | | Grosz E | 30 |
| Carbone M | 23 | | Foucault M | 99 | | Fanon F | 26 | | Lopez Saenz M | 23 |
| Proust M | 21 | | Levi-Strauss C | 25 | | Weiss G | 25 | | Dufrenne M | 22 |

clustering) into the same cluster (Barbaras, Carbone, Johnson, Lefort, and Foti, Toadvine, Morris, Dillon, and Hass). Thus, all of the textually based Merleau-Ponty scholars are grouped together. On the other hand, the majority of authors in the more syncretic group of Merleau-Ponty scholars, Muller's group 1, appear in the EMBODIED cluster of the total dataset (namely, Gallagher, Noë, Dreyfus, Varela and Romdenh-Romluc).[32]

The rest of this dataset divides up into coherent groups of Continental thinkers inspired by but distinct from classical phenomenology (in this way FRENCH is similar to HEIDEGGER, but different from HUSSERL). The post-structuralist Foucault is oppositionally clustered with the structuralist Levi-Strauss, and with Foucault scholars such as Oksala and Gutting. The Butler community includes influences on Butler's work such as Beauvoir, Irigiray and Kristeva (Butler, 2006), as well as contemporary figures in feminist scholarship, including Alcoff, Young, Le Doueff, and Weiss, most of whom are also discussed in the PhilPapers entry on "Continental feminism". Deleuze is clustered with Bergson, who he wrote a book on—*Bergsonism* (Deleuze, 1988). Deleuze is oppositionally clustered with Badiou, who is notable for his critique of Deleuze (see Smith & Protevi, 2020, sec. 6.2). Freud is grouped with Lacan, known for his re-interpretation of Freudian psychoanalysis (Fink, 1996). This group corresponds to the PhilPapers category of Continental Psychoanalysis.

## 5   Discussion and Critical Reflection on Methodology

There is a certain irony in our describing phenomenology using bibliometric methods, given that all of the classical phenomenologists argued that such empirical or "ontical" inquiries are derivative on the more fundamental investigations of phenomenology (Heidegger, 1962). Husserl refers to a historical process whereby mathematical objects came to be regarded first as stand-ins, and then as replacements for the *Lebenswelt*, that is, the "real world" given in perception:

> we must note something of the highest importance that occurred even as early as Galileo: the surreptitious substitution of the mathematically substructed world of idealities for the only real world, the one that is actually given through perception […] our everyday life-world. This substitution was promptly passed on to his successors, the physicists of all the succeeding centuries. (Husserl, 1970, pp. 48–49)

Heidegger, famously extending this line of thought in the *Question Concerning Technology* (Heidegger, 1977), argues that our current age is characterized by a pervasive form of "enframing", whereby things are drained of their primordial meanings and encountered as mere resources, to be calculated, harnessed, and optimized: "The earth now reveals itself as a coal mining district, the soil as a mineral

---

[32] Zahavi appears in HUSSERL, consistently with his emphasis on affinities between Merleau-Ponty and Husserl. Marrato is in the Butler cluster.

deposit. The field that the peasant formerly cultivated and set in order appears differently than it did when to set in order still meant to take care of and to maintain" (Heidegger, 1977, p. 14). From this perspective, a bibliometric analysis of scholarly activity transforms one the deepest forms of human activity into a manipulable, quantifiable resource, a collection of *h*-indices and citation counts to be used in assessing scholarly performance.

We approach the issue in a pragmatic way. Bibliometric methods provide a useful but limited view on an academic literature. By utilizing multiple tools and recognizing their limitations it is possible to gain insight about an academic literature without "surreptitiously substituting" it for the reality of that literature. Compare cartographic maps, which obviously leave a great deal out about the fundamental reality of the areas they describe. There is much more to Africa or Russia than a piece of paper can convey, including the subjective experiences of those who live there. That is immediately understood by anyone who uses a map. Many forms of maps exist, each of which describes different features of a region. By combining these maps—physical, political, topographic, etc.—we can piece together an increasingly detailed (but always fundamentally limited) picture of an area. Doing this responsibly simply requires that we have a clear understanding of what each method reveals and in what ways it is subject to distortion or misuse.

In terms of virtues, bibliometric methods provide a relatively unbiased perspective on a field. They are less subject to individual bias than narrative reports and anecdotal data. From this standpoint, it is interesting to consider both cases where the data confirm the field's self-understanding, and cases where there are surprises. These comparisons can have practical value. Maps like this could be used to direct work to new areas, help identify under-explored areas, facilitate literature searches, and in some cases correct our self-understanding.

As we've seen, the broad self-understanding of the field is supported by the citation data, in particular its organization around Husserl, Heidegger, and Merleau-Ponty, and its loose coupling to embodied cognitive science, philosophy of mind, and Hegel. However, some features of the data were unexpected. We would have expected Fanon, Brentano, or Beauvoir to be cited more, given their prominence in syllabi and anthologies. There was no indication from anthology and syllabi that Zahavi would dominate to the extent that he does, although this may reflect the specific publication venues tracked by our data. Clusters organized around Stein, Schutz, Ortega y Gasset, Bakhtin, and Fuchs suggest the emergence of separate, coherent literatures in these areas.[33] In these and other cases there are multiple potential ways to explain the observations (beyond those already mentioned), which could serve as a fruitful basis for future research.

This kind of work also facilitates "serendipitous browsing" in a kind of virtual library. Speaking for ourselves and our specializations, we discovered some new work while we studied this data, including some new sources in embodied

---

[33] In the case of Ortega y Gasset, this might be due to the Anglophone bias of our sample, as most scholarly work done about his work is published in Spanish.

approaches to phenomenology (Jones, Depraz, Sheets-Johnston) and some unexpected connections, e.g., between Agamben and Arendt. Compare someone making discoveries and pursuing suggestive leads while perusing books at a physical library or records in a music shop.

In terms of limitations, citations graphs can convey a false sense of objectivity. As noted above, the data is biased towards English, and towards articles published in the last 20 years. Most of the literature before 1970 is ignored—including the whole bulk of the original phenomenology literature. Even with a better sample, there would be limitations. Citations don't capture everything about a research community, and suffer well-known problems, which call to mind Husserl's and Heidegger's critiques of mathematization and technology. The *h*-index as a way of measuring faculty quality promotes a rich-get-richer effect, where highly cited papers tend to get cited more often, and at certain point it is just taken for granted that the most cited research is the most important research.[34] When these metrics are tied to institutional incentives it can also lead people to game the system in certain ways, for example by angling for citations and over-citing their own work.

## 6  Future Work

This is, to our knowledge, the first analysis of the phenomenology literature using bibliometric methods. The research is preliminary, but we hope to see more work along these lines in future studies, both in phenomenology and in other areas. One could imagine specific studies of the Frankfurt school, or Continental feminism, or critical race theory, or a deeper dive into Bakhtin or Buddhism in phenomenology. Or similar studies of literary theory as a whole, or some particular area of literature, such as psychology, or cognitive science. The methods are straightforward and should generalize to other scholarly literatures: identify a criterion to use in obtaining a dataset, create an author-wise citation network, identify communities, and create "maps" of the resulting networks using graph embeddings. Of course, these networks could be analyzed using other methods as well.

Focusing specifically on our study of the phenomenology literature, a great deal of additional work remains to be done. An obvious next step would be to expand the dataset. Scopus has coverage of more journals but was not easily integrated into our scripts. Google has more complete data but is proprietary. If there were a way to obtain more complete coverage of the published literature it would of course allow for a fuller, and less temporally or linguistically biased picture of the literature. Further data cleanup could also prove useful (e.g., Austen Clark and Andy Clark are collapsed to "Clark A" in our data). This may improve with further data curation, e.g., with broader use of unique author ids. A promising resource that meets some of these conditions already is the Open Commons of Phenomenology (ophen.org),

---

[34] The literature on the rich-get-richer effect in bibliometrics is reviewed in (Siudem et al., 2020).

which provides free access to many of the primary texts as well as clean meta-data and author ids.

Analysis of filtered subsets of our data is another area for further study. This could facilitate an analysis of changes in the literature over time. A series of maps could be generated, to see how the literature has changed from one decade to the next. With improved coverage of the earlier literature this would be especially interesting. This method could be used to test the hypothesis that Sartre was more prominent in the earlier literature, or that Merleau-Ponty has risen in prominence in recent decades, or whether the presence of Beauvoir and Fanon on recent syllabi reflects a growing interest in these authors. The data could also be filtered by language, to focus, e.g., on the French or German phenomenology literature.

So far, we have discussed ways of filtering the data and re-running the same types of analysis as those canvassed above. However, there are many other ways these types of dataset could be analyzed. (1) A co-citation analysis, where nodes are still authors, but the connections between them reflect the number of times they have appeared as references in the same paper. This captures higher-level statistics and identifies links between authors that appear in similar articles even if they don't directly cite each other. Since co-citation networks are undirected, this would also allow us to use the same network in the community detection algorithms and the spatial layout algorithm. The interpretation of these networks is more difficult, given that they involve "relations of relations", which is why we chose to use the directed citation network in the present study. However, we have pursued preliminary co-citation analysis of this data and the initial results are promising. (2) Alternative graph embeddings (i.e. ways of laying out the network), and alternative community detection algorithms would allow us to better understand in what ways our results are artifacts of OpenOrd and Louvain. (3) Finally, the analysis of citations could be supplemented with semantic methods that extract information from the *content* of the articles, using for example the abstracts of papers in a specific field (an analysis along these lines of the cognitive science literature is (Contreras Kallens & Dale, 2018)). The focus on content over pure citational practice could be used to determine what the main topics or categories of work are in these data (for example, discussions of temporality, cognitive science, the body, theology, the self, etc.). This would provide another means for comparing the self-understanding of phenomenologists with the actual content of their work.

In his preface to the English translation of *Ideas,* written late in his career and decades after the German edition was first published, Husserl describes his phenomenological investigations in cartographic terms, characterizing himself as an explorer who has "wandered in the trackless wilds of a new continent".[35] He expresses disdain for those who would "exempt themselves" from such a journey based on the "refusals of geographers" who rely only on their maps and habitual prejudices. Husserl's imagery is evocative, and his message is basic to phenomenology (don't just rely on what others say; consult the phenomena yourself!), but the

---

[35] Reprinted as the epilogue to (Husserl, 1990). See p. 422.

imagery is in other ways problematic, and his attitude towards geographers is misleading. Maps can play a crucial role in orienting explorers in large, complex domains, such as the millions of pages of the phenomenology literature.

We have created the first draft of a map of a literature that could direct work to new areas, help identify under-explored areas, adjust intuitions about the field, and facilitate new lines of study. However, more could be done. A good start would be the online publication of a more detailed map than Fig. 2, one which could be searched and explored and zoomed in on, in order to locate and contextualize specific authors and groups. Our longer-term hope is that more maps like this will be developed, in multiple areas and with rich interactive tools, to better orient those exploring the vast landscapes of contemporary scholarship.

# References

Adorno, T. (2002). *The jargon of authenticity* (2nd ed.). Routledge.

Alessandrini, A. C. (2005). *Frantz Fanon: Critical perspectives*. Routledge.

Baneyx, A. (2008). "Publish or Perish" as citation metrics used to analyze scientific output in the humanities: International case studies in economics, geography, social sciences, philosophy, and history. *Archivum Immunologiae et Therapiae Experimentalis, 56*(6), 363–371.

Bernet, R., et al. (1993). *An introduction to Husserlian phenomenology: Northwestern University studies in phenomenology and existential philosophy* (1st ed.). Northwestern University Press.

Block, N. (1995). On a confusion about a function of consciousness. *Behavioral and Brain Sciences, 18*(2), 227–247.

Blondel, V. D., et al. (2008). Fast unfolding of communities in large networks. *Journal of Statistical Mechanics: Theory and Experiment, 2008*(10), P10008.

Borgman, C. L. (1989). Bibliometrics and scholarly communication: Editor's introduction. *Communication Research, 16*(5), 583–599. https://doi.org/10.1177/009365089016005002

Braun, T., Glänzel, W., & Schubert, A. (1985). *Scientometric indicators: A 32 country comparative evaluation of publishing performance and citation impact*. World Scientific.

Butler, J. (2006). *Gender trouble: Feminism and the subversion of identity*. Routledge. Available at: https://www.routledge.com/Gender-Trouble-Feminism-and-the-Subversion-of-Identity/Butler/p/book/9780415389556. Accessed 5 Feb 2021.

Chalmers, D. J. (1995). Facing up to the problem of consciousness. *Journal of Consciousness Studies, 2*(3), 200–219.

Contreras Kallens, P., & Dale, R. (2018). Exploratory mapping of theoretical landscapes through word use in abstracts. *Scientometrics, 116*(3), 1641–1674. https://doi.org/10.1007/s11192-018-2811-x

Csardi, G., & Nepusz, T. (2006). The igraph software package for complex network research. *InterJournal, Complex Systems, 1695*, 1695.

de Boer, K. (2000). *Thinking in the light of time: Heidegger's encounter with Hegel*. SUNY Press.

DeLay, S. (2018). *Phenomenology in France: A philosophical and theological introduction*. Routledge.

Deleuze, G. (1988). *Bergsonism* (H. Tomlinson & B. Habberjam, Trans.). Zone Books.

Dennett, D. C. (1993). *Consciousness explained*. Penguin.

Derrida, J. (2003). *The problem of genesis in Husserl's philosophy*. University of Chicago Press.

Derrida, J. (2010). *Voice and phenomenon: Introduction to the problem of the sign in Husserl's phenomenology*. Northwestern University Press.

Drabinski, J. E., & Nelson, E. S. (Eds.). (2015). *Between Levinas and Heidegger*. Reprint edition. State University of New York Press.

Dreyfus, H. L. (1991). *Being-in-the-world*. The MIT Press.

Dummett, M. (1996). *Origins of analytical philosophy*. Harvard University Press.

Dupont, C. (2014). *Phenomenology in French philosophy: Early encounters*. Springer.

Fagenblat, M. (2015). *Review of between Levinas and Heidegger*. Available at: https://ndpr.nd.edu/news/between-levinas-and-heidegger/. Accessed 5 Feb 2021.

Ferri, M. B., & Ierna, C. (2019). *The reception of Husserlian phenomenology in North America*. Springer.

Fink, B. (1996). *The Lacanian subject*. Available at: https://press.princeton.edu/books/paperback/9780691015897/the-lacanian-subject. Accessed 5 Feb 2021.

Fortunato, S. (2010). Community detection in graphs. *Physics Reports, 486*(3), 75–174. https://doi.org/10.1016/j.physrep.2009.11.002

Garfield, E. (2009). From the science of science to Scientometrics visualizing the history of science with HistCite software. *Journal of Informetrics, 3*(3), 173–179. https://doi.org/10.1016/j.joi.2009.03.009

Grossman, R. (2015). *Phenomenology and existentialism: An introduction*. Routledge. Available at: https://www.routledge.com/Phenomenology-and-Existentialism-An-Introduction/Grossmann/p/book/9781138978362. Accessed 5 Feb 2021.

Heidegger, M. (1962). *Being and time*. (J. Macquarrie & E. Robinson, Trans.). Blackwell Publication.

Heidegger, M. (1977). *Question concerning technology, and other essays*. Harper Torchbooks.

Heidegger, M. (1997a). *Kant and the problem of metaphysics* (Enlarged, 5th ed.). (R. Taft, Trans.). Indiana University Press.

Heidegger, M. (1997b). *Phenomenological interpretation of Kant's critique of pure reason*. Indiana University Press.

Hopkins, B. C. (2011). *The origin of the logic of symbolic mathematics: Edmund Husserl and Jacob Klein*. Indiana University Press.

Husserl, E. (1970). *Crisis of European sciences and transcendental phenomenology* (1st ed.). Northwestern University Press.

Husserl, E. (1990). *Ideas pertaining to a pure phenomenology and to a phenomenological philosophy: Second book: Studies in the phenomenology of constitution*. Kluwer Academic Publishers.

Husserl, E. (1998). The phenomenology of monadic individuality and the phenomenology of the general possibilities and compossibilities of lived-experiences: Static and genetic phenomenology. *Continental Philosophy Review*. (A. Steinbock, Trans.)*, 31*(2), 143–152.

Husserl, E. (2013). *Cartesian meditations: An introduction to phenomenology*. Springer.

Iribarne, J. V. (1991). Intersubjectivity as the starting point. In A.-T. Tymieniecka (Ed.), *Husserlian phenomenology in a new key: Intersubjectivity, ethos, the societal sphere, human encounter, pathos book 2 phenomenology in the world fifty years after the death of Edmund Husserl* (Analecta Husserliana) (pp. 3–12). Springer Netherlands. https://doi.org/10.1007/978-94-011-3450-7_1

James, W. (2007). *The principles of psychology*. Cosimo, Inc.

Janicaud, D. (2000). *Phenomenology and the "theological turn": The French debate*. Fordham University Press.

Käufer, S., & Chemero, A. (2015). *Phenomenology: An introduction | Wiley*. Wiley. Available at: https://www.wiley.com/en-us/Phenomenology%3A+An+Introduction-p-9780745651477. Accessed 5 Feb 2021.

Kern, I. (1964). *Husserl Und Kant Eine Untersuchung Über Husserls Verhältnis Zu Kant Und Zum Neukantianismus*. M. Nijhoff. Available at: https://philpapers.org/rec/KERHUK-3. Accessed 5 Feb 2021.

Kindi, V. (2005). Should science teaching involve the history of science? An assessment of Kuhn's view. *Science & Education, 14*(7), 721–731. https://doi.org/10.1007/s11191-004-7344-4

Kuhn, T. S. (1962). *The structure of scientific revolutions*. University of Chicago Press.

Lakoff, G., & Johnson, M. (1999). *Philosophy in the flesh: The embodied mind and its challenge to western thought*. Basic Books.

Lewis, M., & Staehler, T. (2010). *Phenomenology: An introduction*. Continuum.

Lobo, L., Heras-Escribano, M., & Travieso, D. (2018). The history and philosophy of ecological psychology. *Frontiers in Psychology, 9*. https://doi.org/10.3389/fpsyg.2018.02228

Luft, S., & Overgaard, S. (2013). *The Routledge companion to phenomenology*. Routledge/CRC Press. Available at: https://www.routledge.com/The-Routledge-Companion-to-Phenomenology/Luft-Overgaard/p/book/9780415858410. Accessed 5 Feb 2021.

Malpas, J. (2018). Hans-Georg Gadamer. In E. N. Zalta (Ed.), *The Stanford encyclopedia of philosophy*. Fall 2018. Metaphysics Research Lab, Stanford University. Available at: https://plato.stanford.edu/archives/fall2018/entries/gadamer/

Martin, S., et al. (2011). OpenOrd: An open-source toolbox for large graph layout. In *Visualization and data analysis 2011* (p. 786806). International Society for Optics and Photonics. https://doi.org/10.1117/12.871402

Merleau-Ponty, M. (2012). *Phenomenology of perception* (D. Landes, Trans.). Routledge.

Mingers, J., & Leydesdorff, L. (2015). A review of theory and practice in scientometrics. *European Journal of Operational Research, 246*(1), 1–19. https://doi.org/10.1016/j.ejor.2015.04.002

Moran, D. (2000). *Introduction to phenomenology*. Routledge.

Nagel, T. (1974). What is it like to be a bat? *The Philosophical Review, 83*(4), 435–450.

Osareh, F. (1996). Bibliometrics, citation analysis and co-citation analysis: A review of literature I. *Libri, 46*(3). https://doi.org/10.1515/libr.1996.46.3.149

Price de Solla, D. (1965). Networks of scientific papers. *Science, 149*(3683), 510–515.

R Core Team. (2020). *R: A language and environment for statistical computing*. R Foundation for Statistical Computing. Available at: https://www.R-project.org/

Radicchi, F., Fortunato, S., & Vespignani, A. (2012). Citation networks. In A. Scharnhorst, K. Börner, & P. van den Besselaar (Eds.), *Models of science dynamics: Encounters between complexity theory and information sciences* (Understanding complex systems) (pp. 233–257). Springer. https://doi.org/10.1007/978-3-642-23068-4_7

Rollinger, R. D. (2013). *Austrian phenomenology: Brentano, Husserl, Meinong, and others on mind and object*. Walter de Gruyter.

Salice, A. (2020). The phenomenology of the Munich and Göttingen circles. In *The Stanford encyclopedia of philosophy* (Winter 2020 Edition), E. N. Zalta (Ed.). Metaphysics Research Lab, Stanford University. Available at: https://plato.stanford.edu/archives/win2020/entries/phenomenology-mg/

Schuhmann, K. (1977). *Husserl-Chronik: Denk- und Lebensweg Edmund Husserls* (Husserliana: Edmund Husserl – Dokumente). Springer Netherlands. Available at: https://www.springer.com/gp/book/9789024719723. Accessed 5 Feb 2021.

Searle, J. R. (1992). *The rediscovery of the mind*. MIT Press.

Sheehan, T. (2001). A paradigm shift in Heidegger research. *Continental Philosophy Review, 34*(2), 183–202.

Simons, M. A. (2010). *Feminist interpretations of Simone de Beauvoir*. Penn State Press.

Siudem, G., et al. (2020). Three dimensions of scientific impact. *Proceedings of the National Academy of Sciences, 117*(25), 13896–13900. https://doi.org/10.1073/pnas.2001064117

Smith, D., & Protevi, J. (2020). Gilles Deleuze. In E. N. Zalta (Ed.), *The Stanford encyclopedia of philosophy*. Spring 2020. Metaphysics Research Lab, Stanford University. Available at: https://plato.stanford.edu/archives/spr2020/entries/deleuze/

Smith, B., & Smith, D. (Eds.). (1995). *The Cambridge companion to Husserl* (Cambridge companions to philosophy). Cambridge University Press. https://doi.org/10.1017/CCOL0521430232

Solomon, R. C. (2001). *Phenomenology and existentialism*. Rowman & Littlefield.

Spiegelberg, H. (Ed.). (1981). *The phenomenological movement: A historical introduction* (3rd ed. 1994 edition). Springer.

Steinbock, A. J. (1995). *Home and beyond: Generative phenomenology after Husserl* (1st ed.). Northwestern University Press.

Steinbock, A. J. (1998). Husserl's static and genetic phenomenology: Translator's introduction to two essays. *Continental Philosophy Review, 31*, 127–134.

Stone, A. (2017). Hegel and twentieth-century French philosophy. In D. Moyar (Ed.), *The Oxford handbook of Hegel*. Oxford University Press. https://doi.org/10.1093/oxfordhb/9780199355228.013.33

Tieszen, R. L. (2005). *Phenomenology, logic, and the philosophy of mathematics*. Cambridge University Press.

Tye, M. (1995). *Ten problems of consciousness: A representational theory of the phenomenal mind*. MIT Press.

van Eck, N. J., & Waltman, L. (2014). Visualizing bibliometric networks. In Y. Ding, R. Rousseau, & D. Wolfram (Eds.), *Measuring scholarly impact: Methods and practice* (pp. 285–320). Springer. https://doi.org/10.1007/978-3-319-10377-8_13

Walsh, P. J., & Yoshimi, J. (2018). Philosophy of mind in the phenomenological tradition. In *Philosophy of mind in the twentieth and twenty-first centuries* (pp. 21–51). Routledge.

Welton, D. (2000). *The other Husserl: The horizons of transcendental phenomenology*. Indiana University Press.

Wilson, R. A., & Foglia, L. (2017). Embodied cognition. In E. N. Zalta (Ed.), *The Stanford encyclopedia of philosophy*. Spring 2017. Metaphysics Research Lab, Stanford University. Available at: https://plato.stanford.edu/archives/spr2017/entries/embodied-cognition/

Wolff, E. (2006). From phenomenology to critical theory: The genesis of Adorno's critical theory from his reading of Husserl. *Philosophy & Social Criticism, 32*(5), 555–572.

Yoshimi, J., Tolley, C., & Smith, D. W. (2019). California phenomenology. In *The reception of Husserlian phenomenology in North America* (pp. 365–387). Springer.