



# Introduction: Language and Worldviews

Nathalie Gontier<sup>1</sup> · Diana Couto<sup>2,3</sup> · Matthieu Fontaine<sup>4</sup> · Lorenzo Magnani<sup>5</sup> · Selene Arfini<sup>5</sup>

Accepted: 20 June 2022 / Published online: 28 June 2022  
© The Author(s), under exclusive licence to Springer Nature B.V. 2022

## 1 Introduction<sup>1</sup>

Language and worldviews are two of the most favorite topoi for philosophers, be they philosophers of language or mind, science, or religion, epistemology or logic. How language establishes, mediates, constructs, or enacts a relationship amongst humans, and between humans and the physical, sociocultural, and biological aspects of a single or multiple worlds; how it enables individual thought and reason, intentionality and consciousness, we-intentionality and collective identity formation; and how language enables the communication of knowledge, physical, social, or imaginary in kind, are research questions shared with the fields of linguistics, psychology, anthropology, sociology, and many other human, life, and natural sciences.

This issue brings together researchers active within different disciplines and areas of research. Each one of these scholars represent important research traditions that have differentially conceptualized the complex relationship between language and worldviews. Together, they cover a distance of opinions in time and space on the matter at hand that ranges from America to Asia, from Bronze Age cultures

to the present, from logic to pragmatics, and from philosophy and religion to science.

## 2 Language/s and Worldview/s

Does language shape how humans see the world, and if so, which of the approximately 7000 human languages provide this worldview? All or none? Are there as many languages as there are worldviews? Some would say yes, because they would argue that particular languages determine how we see the world. Others would say no, and contend that how we understand the world is determined not by a particular language, but by a universal language faculty, or a language of the mind, or a cognitive and evolved predisposition to see the world in certain but not in other ways. Still others would say that a single language can express many more worldviews than one, for they associate worldviews not with language per se, but with knowledge and ideas, possibly of a philosophical, religious, or scientific kind.

Can ideas become expressed or communicated in non-linguistic ways? If so, worldviews can become dissociated from language, and this opens up the possibility that non-linguistic beings also entertain worldviews, leaving scholars to disagree on whether these different worldviews are about the same or different worlds. In fact, one can even ask whether the same individual can maintain different worldviews and whether all these worldviews are about the same or different worlds.

✉ Nathalie Gontier  
nlgontier@fc.ul.pt

<sup>1</sup> Applied Evolutionary Epistemology Lab and Centro de Filosofia das Ciências, Departamento de História e Filosofia das Ciências, Faculdade de Ciências, Universidade de Lisboa, 1749-016 Lisbon, Portugal

<sup>2</sup> Logos Research Group in Analytic Philosophy and BIAP—Barcelona Institute of Analytic Philosophy, University of Barcelona, Barcelona, Spain

<sup>3</sup> MLAG—Mind, Language and Action Group, Institute of Philosophy, University of Porto, Via Panorâmica s/n, 4150–564 Porto, Portugal

<sup>4</sup> D. Filosofía, Lógica y Filosofía de la Ciencia, University of Seville, Seville, Spain

<sup>5</sup> Department of Humanities—Philosophy Section & Computational Philosophy Laboratory, University of Pavia, Piazza Botta, 6, 27100 Pavia, Italy

<sup>1</sup> This special issue is an outgrowth of a call on the topic of Language and Worldviews, a topic rooted in a workshop on Language Throughout the Ages (<https://sites.google.com/view/appeel/events/Ita2019>) that was organized by the Applied Evolutionary Epistemology Lab (<http://appeel.fc.ul.pt>) at the Faculty of Science of the University of Lisbon in Portugal in 2019, as a satellite event to Protolang 6 (<https://sites.google.com/view/protolang-6/>). The current paper provides an introduction to the fifteen scholarly papers contained in this issue that investigate the complex relationship between language and worldviews. On a meta-level, all of the papers are representative of varying worldviews.

The worldview concept goes back to Kant (1790) who, in his *Kritik der Urteilskraft*, in a single reference, distinguished the *Noumenon* or the world and the things in it as they are, in and of themselves, from how things appear in a *Weltanschauung*, i.e. a particular view of the world.

Denn nur durch dieses und dessen Idee eines Noumens, welches selbst keine Anschauung verstatet, aber doch der Weltanschauung, als bloßer Erscheinung, zum Substrat untergelegt wird, wird das Unendliche der Sinnenwelt, in der reinen intellektuellen Größenschätzung, unter einem Begriffe ganz zusammengefaßt, obzwar es in der mathematischen durch Zahlenbegriffe nie ganz gedacht werden kann. (Kant 1790: §26, pp. 91–2)

Wilhelm von Humboldt (1836; Humboldt and Buschmann 1836, p. 74) later argued that such a worldview, which he called a *Weltansicht*, is brought forth by language. Every language, von Humboldt conjectured, does not so much determine as enable a particular regard to, or outlook on the world, in the same way that language enables the development of a similar subjectivity or shared identity, what we call today a we-intentionality.

... auf die Sprache in derselben Nation eine gleichartige Subjektivität einwirkt, so liegt in jeder Sprache eine eigentümliche Weltansicht. (Humboldt and Buschmann 1836, p. 74)

The plurality of human and animal worldviews respectively would later be taken up by James (1868, 1909), and by von Uexküll (1909 pp. 6–7). The latter distinguished between the outer environment and the inner world of organisms (*Umwelt* and *Innerwelt*). Dilthey (1996, 2010, 2019) would furthermore link worldviews to a feeling of life (*Lebensgefühl*) and an attitude toward life (*Lebenshaltung*) that would become understood as a philosophy of life (*Lebensphilosophie*) (Nelson 2018). As attitudes toward life and opinions on the world, worldview research would also bring in what Hüsserl (1936 pp. 106–9) called the *Lifeworld* (*Lebenswelt*).

Here, worldviews would start to converge with philosophies understood as ontologies or doctrines that explain how the world is, and this would bring in research on religious and scientific thinking. Finally, scholars such as Heidegger (1938) and Wittgenstein (1961: §96; 1969) began to differentiate the concept of a worldview from that of a world picture (*Weltbild*). The overview of the chapters that make up this issue that is given in this paper starts off around this particular moment in time.

### 3 Overview of the Chapters

The first three papers in this collection examine the nature of worldviews. Afterwards, particular worldviews are examined for how they understand or determine language. Emphasis subsequently shifts toward how language determines worldviews. The issue ends with two papers that discuss animal minds and a paper that redefines language and communication from within an evolutionary worldview.

### 4 The Nature of Worldviews

The special issue opens with the paper of Alice Morelli who writes on *Worldviews and World-Pictures: Avoiding the Myth of the Semantic Given*. Morelli provides an analysis of what reasoning on the relation between language and worldviews brings into the equation. Consulting the works of Kant (1987), Freud (1962), Lewis (1929), Spengler (1926), Moore (1970), Davidson (1973a, b), and Sachs (2014), Morelli looks into the complex relationship between humans, language, and the world; how this relation is mediated by cognition, biology, and culture; and how this relationship impacts our understanding of knowledge. According to Sellars (1997), understanding worldviews as metaphysical-dogmatic and linguistic formulations on how the world is underlies the myth of the semantic given. Morelli instead understands worldviews from within Wittgenstein's (1969) notion of the world picture (*Weltbild*), a scheme that provides the background from wherein worldviews can become formulated. World pictures do not provide knowledge about the world; they provide the conceptual foundation where such knowledge can become formulated.

In the article, *Language: The "Ultimate Artifact", Develop, and Update Worldviews*, Lorenzo Magnani, Alger Sans Pinillos, and Selene Arfini further investigate the role played by language in worldview formation. Following James (1909) and Gibson (1979), the authors distinguish individual worldviews from those maintained by the group. From an ecological-semiotic perspective, they consider the former as biologically and cognitively constructed, and the latter as culturally constructed. A worldview, or as the authors prefer, a cosmovision, unifies both, and it brings forth a personal, agential worldview, one where saliences (anomalies) and pregnancies (affordances) form the basis of abductive reasoning (Magnani 2009) that underlies learning and the creative development of new skills. Language in general and semiosis (Sebeok 2001; Thom 1988; Wheeler 2004) in particular have an

important role to play in these processes because they provide the scaffolds for enactive cognition (Clark 1997).

In the paper *Space and in Conceptualizing*, Branimir Vukosav and Marijana Kresić Vukosav add an extra dimension to the debate of how worldviews form and how they affect the complex interrelation between language and geographical space in identity formation. Following Relph (1976), beyond understanding space as a geographical location that gives regional, cultural, and historical identity, they distinguish between perceptual, existential, cognitive, and abstract space, each of which provides individuals and groups, and their languages, with a place that brings forth a strong sense of identity and belonging. Following Tuan (1977), space is distinguished from place, and the former is considered open-ended and abstract while the latter receives meaning through personal and collective experiences. The scholars subsequently investigate how shared space fuels the making of a collective consciousness where history and culture and also language become shared into regional identities. Adhering to Paasi's model (1986), regional identity is an outgrowth of territorial, symbolic, and institutional identity formation. The authors subsequently turn their attention to Dalmatia in Croatia and investigate how regional identity was established in this region. Analyzing both essential and constructivist views on identity, the authors plead for a more balanced view of identity formation, one that recognizes that beyond language, place and space can also contribute to identity, and both have determining and flexible aspects to them.

## 5 From Worldviews to Language

The relation between reality, thought, and language is contemplated in both Western and non-Western philosophies and religions. The following five papers in the collection look into particular worldviews and how they impact (theorizing on) language.

Johan Blomberg and Przemysław Żywiczyński take on the daunting task of comparing occidental and oriental ideas by turning to Buddhist conceptions of the ineffability of language in their paper on *and Its Limits: Reference and the Ineffable in Philosophy*. The problem of ineffability concerns how much of reality is outside the reach of language and thought. The authors point toward conflicting ideas on the matter in Buddhist scholarship (Żywiczyński 2004). Buddhist doctrine identifies language (*śabda*) with conceptual thinking (*kalpanā*), which is considered distinct from reality (*satya*, "truth"). Reality is conceptualized as fleeting and momentarily, while language reinforces the reifying tendencies of the mind, by bringing forth beliefs in substantial existence (object universals), which is ultimately considered fictitious. The doctrine of ineffability (*anirdeśya*) agrees that

the nature of reality (*bodhi*) cannot be captured in linguistic description, but it additionally argues that philosophical analyses of Buddhist concepts can help overcome linguistic limitations in describing reality. Linguistic contemplation is required during spiritual practice to recognize ineffability. However, a direct and undistorted way to connect to reality can only happen through *pratyakṣa*, which combines both sense perception (*indiyapratyakṣa*) and spiritual insight (*yogipratyakṣa*).

East also meets West in the contribution by Ricardo Santos Alexandre, who investigates how language underlies worldbuilding, with his work on *The Work of Words: Language and the Dawn of*. The scholar aims to establish a dialogue between three Japanese thinkers, Kino Tsurayuki (Brower and Miner 1961; Ueda 1967), Motoori Norinaga (Motoori 2007), Fujitani Mitsue (1811/1986), and Martin Heidegger (1949, 1959). The overall question asked by Santos Alexandre is how poetry can be a locus for philosophy of language and how both underlie worldbuilding by enabling community formation characterized by mutual understanding. Contrary to the idea that art, poetry, or thought are expressions of the individual, the author investigates how, in Japan, poetry is considered the expression of the community, of a social world, of an intelligibility shared with others. Poetry, in this regard, becomes a social bonding device that underlies a linguistic exercise in the reflexivity of socially shared situations, one that is foundational for community and overall worldbuilding. The author investigates the relations between these lines of thought and Heidegger's ideas on language, the overall hermeneutic approach to the rise of intersubjectivity and community building, and the role of language in this formative process.

The question of how language determines not only a worldview but a way of life is also raised by Eva Kiesele who writes on *A Late Antique Rabbinic Discourse on the Linguistic (In-)determinacy of*. Judaic law is formulated in the language of the *Torah* (instruction). Legal reasoning on the laws and the attribution of and punishment according to laws happens through language. How did Roman Palestinian rabbis of late Antiquity (third and fourth centuries of the current era) use language to ground the determinacy of the law, and how does this relate to linguistic determinacy? Kiesele turns to one particular rule of inference found across the rabbinic corpus where affirmation and negation are considered to inform one another: yes is said to follow from no and, vice versa, no follows from yes. She examines the differing opinions of two early exegetical schools and of later scholastic generations on the matter and highlights shifting linguistic attitudes on how laws and descriptions of rewards and punishments in Judaic writings carry implications on both what and what not to do, and how to derive either from the other.

The change of a positive to a negative is also witnessed in another Semitic language called Ugaritic. The matter is examined by Cristina Barés Gómez and Matthieu Fontaine in their paper on *Not a Negation? A Logico-Philosophical on the Ugaritic Particles lā'al*. Ugaritic is a middle Eastern language that was spoken in the Bronze Age city of Ugarit and written down in cuneiform. Unlike Indo-European languages, the particles *lā'al* in Ugaritic change from positive to negative in a variety of contexts of use. Problems of negation traditionally relate to questions on the truth-value of words which in turn raises questions of evidentiality. Being unable to prove the falsity of a statement, for example, does not demonstrate its truth. For that, proof is needed. Truth or falsity for the authors is not merely determined by a state of affairs but by how both are understood from within a community. Taking the community into account brings forth a dynamic epistemic framework, one where assertions and negations change according to their context of use. Building upon previous work (Barés Gómez et al. 2021), the authors propose to understand the dynamic nature of the negative *lā'al* particles in Ugaritic from within a view that combines semantic with pragmatic research. On their account, the *lā'al* particles are used when no direct evidence is available for the claims made, which they call a negative evidential paradigm.

Mihaela Popa-Wyatt writes on *Compound Figures: A Multi-Channel View of and Psychological*. Like the previous authors, Popa-Wyatt also counters classic philosophical views on language that assume that truth or meaning can be directly derived from linguistic propositions or utterances. Adhering instead to a semantic-pragmatic approach (Millikan 1984; Millikan 2004; Sperber and Wilson 1986; Wilson and Sperber 2012), the author brings in psychological research on intentionality, and sociocultural research on the overall situatedness and embeddedness of communicative acts. Here, she focuses on the important role played by non-verbal communication channels (gesture, intonation, facial expression) in the formation of speaker meaning and utterance understanding. The author subsequently investigates how such a theory of communicative intent can shed new light on ironic utterances as they are commonly used in western discourse.

## 6 From Language to Worldviews

The next series of papers in the issue switches outlooks from worldviews on language, to the impact of language on worldviews. The role of non-verbal cues and signals in the establishment of communication knows a long intellectual history. In the paper titled *From Body to: Gestural and Pantomimic Scenarios of Language Origin in the Enlightenment*, Przemysław Żywicznyński and Sławomir Wacewicz look into

early formulations of how language possibly evolved. Current language evolution research is characterized by polemic debates on whether language evolved from vocalizations, gestures, or both and possibly other modalities that make use of the entire body to communicate. The authors demonstrate that these debates reach back to the Enlightenment, to what has been considered the golden age of glottogony when scholars first formulated naturalistic accounts of how human language possibly originated. In their analysis, Żywicznyński and Wacewicz search for early formulations of gestural-pantomimic accounts of language origins, which they differentiate from accounts focused on bodily-visual expressions of language. They confront these ideas with problems discussed in current research on pantomime as a predecessor of language (Zlatev et al. 2020), as well as, amongst others, multimodality (Kendon 2004; McNeill 2012); and problems of polysemioticity which, defined by Zlatev (2019) refers to the combination of vocal and visual means for communication.

The paper by Gabriella Mazzon is entitled *“Good Savage” vs. “Bad Savage”: Discourse and Counter-Discourse on Primitive Language as a Reflex of English*. From within critical discourse analysis, Mazzon investigates the imperial and hegemonic rhetoric of seventeenth to nineteenth-century Britain on the nature of the English language and how it relates to Celtic, Scottish Gaelic, Britton, Welsh, Saxon, and other languages spoken in these isles. These centuries are typified by what Bourdieu (1991) has called “language anxiety”, an age where sociopolitical and economic insecurities lead to the politicization of language. Mazzon details how a power discourse (Foucault 1966) emerges where languages and their speakers become graded according to hypothesized hierarchical scales of “progress” such as the one introduced by Morgan (1877) that ranges from “primitive” and “savage” to “civilized” and “modern”. Celtic, in this regard, served debates on the nature of an Adamic language, and the Welsh, in particular, became compared to Native Americans (“Welsh Indians” as Jones, 1764 called them). The hierarchical scales functioned as tools for discrimination, and they justified sociopolitical ideologies on the nation-state. The scales furthermore came to underlie historical and evolutionary thought on the origin and evolution of language where, for many years, ideas of “corruption” and “purification” would set the tone for how scholars understand language diversification and language mixing. Proven false, Mazzon cautions that many of these unjustified ideas continue to determine current discourse and counter-discourse on language.

Discourse and counter-discourse are also studied by Bárbara Jiménez-Pazos in her paper titled *Darwin Puzzled? A Computer-Assisted of Language in the Origin of*. The author asks whether the introduction of Darwinian evolutionary theory has impacted worldview formation by contributing

to what Weber (1917/2004) called the disenchantment of the world. Darwin (1859) himself wrote in the *Origin* about the “grandeur” there is to an evolutionary view of life, but near the end of his life, he considered himself “color-blind” and in loss of “higher aesthetic tastes” apparently because of his adoption of an evolutionary worldview (Darwin 1887). To find out whether this disenchantment is real and of relevance to understanding Darwin’s writing, Jiménez-Pazos performed a computer-assisted analysis of how the language used by Darwin to describe natural phenomena varies throughout all six editions of the *Origin of Species*. She analyses the corpus for changes in aesthetic-emotional and religious adjectives used to describe natural beauty to gain insight into the onto-epistemological presuppositions Darwin held. Results of this research indicate that Darwin, on the one hand, reduced his usage of religious adjectives, and on the other, increased the usage of aesthetic-sentimental adjectives and adverbs to describe the wonder and beauty of natural phenomena. The latter might indicate disenchantment, in the non-pejorative sense of the term.

Linguistic corpus is also studied by Carmela Chateau-Smith in her paper on *Language, Thought, and the of*. The author follows in the footsteps of Nida (1945) and Quine (1960) and investigates how language can facilitate or impede the international transfer and translation of scientific knowledge. Following von Humboldt (Humboldt and Buschmann 1836, p. 74), she understands language to provide a *Weltansicht* or specific view of the world, one that influences thought and action, and she sets out to investigate how worldviews impact the formation, diaspora, and reception of scientific and other types of knowledge. The author first scrutinizes a variety of dictionaries and other linguistic corpora for the words she subsequently uses to analyze and explain a geological corpus. This geological corpus is called *WebsTerre*, and it is composed of geological texts published between 1830 and 1990. Chateau-Smith analyses the corpus for how interactions between semantic prosody and translation have significantly impacted the paradigm shift (Kuhn 1969) in the Earth sciences from continental drift to plate tectonics. The latter, she demonstrates, is a concept much easier to accept than the former, because of the semantic prosody (resonance) of each word in collocation. She warns that scientific terms should be chosen carefully because this choice can facilitate or impede the acceptance of ideas.

## 7 Animal Minds and the Evolution of Communication and Language

The following two papers investigate animal minds.

Does language require thought, and are animals, including humans that lack language, void of reason? This is the question Diana Couto raises in her paper on *Donald*

*Davidson on Language and Minds*. To find answers, she divides debates on the thought-language relationship into the following three positions. Lingualism assumes that thought requires language, which implies that animals that lack language cannot think. Mentalism assumes that thought can exist independently of language, and such enables the view that animals can think without language. A third intermediate position states that animals that lack language can think, albeit in a qualitatively different manner. Donald Davidson’s work is often considered to advocate lingualism. Couto shows that Davidson (1973a, b; 1974), on the contrary, maintained a radically skeptical position on the matter of whether languageless animals have reason. Davidson maintained that understanding utterance meaning depends upon interpretation, which requires the attribution of belief states or intentionality. This underlies communication which is based upon triangulation, the speaker and hearer engage in an interpretative relation with one another and with a world they share (a worldview), while non-communicative animals respond more directly to what he called an objective world.

In the paper *Brains and the Work of Words: Daniel Dennett on Natural Language and the Human Mind*, Sofia Miguens contrasts Daniel Dennett’s (2017) views on natural language with those of nativists and universalists such as Jerry Fodor (1975) and Noam Chomsky (Hauser et al. 2002), and pragmatists such as Paul Grice (1989). Dennett is a famous advocate of the popular idea held within the field of evolutionary linguistics that language is an adaptation that evolved for better social communication. Language, for Dennett, also played a crucial role in the formation of human consciousness, and Miguens examines what the work of words implies for the establishment of the human mind and human worldbuilding and how worldbuilding differs in animals that lack language. Dennett (1996) endorses that there exist different kinds of minds, and thus, Miguens demonstrates, implies a pluralistic ontology, one where there are as many worldviews as there are minds, but Dennett refrains from taking on such a position and maintains an ontological monist view. Miguens analyses the reasons why.

The special issue on *Language and Worldviews* is closed by Nathalie Gontier who contributes with the paper titled *Defining and from within a pluralistic worldview*. The author defines communication as the evolution of physical, biochemical, cellular, community, and technological information exchange. She understands language as a form of community communication whereby the information exchanged comprises evolving individual and group-constructed knowledge and beliefs, which are enacted, narrated, or otherwise conveyed by evolving rule-governed and meaningful symbol systems, which are grounded, interpreted, and used from within evolving embodied, cognitive, ecological, sociocultural, and

technological niches. Both communication and language are pluralistic phenomena that require an applied evolutionary epistemological approach focused on identifying the myriad of units, levels, mechanisms, and processes involved in language evolution (Gontier 2021). The evolutionary approach to communication and language is distinguished from four older approaches indicative of different worldviews. Language used to be understood either as referential by ancient philosophers (e.g. Plato 1921), or as social by moral and political philosophers (e.g. Rousseau 1781/1970), while communication studies arose in association with informational (Shannon 1948) and semantic-pragmatic approaches (Peirce 1931–1935). The author delineates how these approaches are representative of different worldviews.

## 8 Future Prospects

Research on the relationship between language and worldviews is firmly rooted in pragmatics, and pragmatics is what currently characterizes research on worldviews and language. Semantic-pragmatic dimensions are steadily becoming accompanied by evolutionary research on the origin of language and communication, the cognitive construction of worldviews, and the socio-cultural and technological practice of worldbuilding. This in and of itself is an indication that worldviews are on the move. Research on the truth-value of language and the social foundations of language and communication is being replaced by research on its use and overall practicality in enabling communication in space and over time. This raises questions on the very nature of language and whether or not it can be reduced to a communicative act. It furthermore continues to raise questions on how good language is at communicating individual or we-intentionality, knowledge of sociocultural events, or ontological matters of fact. The quest for answers continues.

**Acknowledgements** In the name of all authors and guest editors, we would like to cordially thank the Editor-in-Chief of *Topoi*, Fabio Paglieri, for providing us with a good home for our special issue. Gontier also warmly thanks the authors for responding to our call and for contributing their important papers to this collection; Diana Couto, Matthieu Fontaine, Lorenzo Magnani, and Selene Arfini for collaborating on the editing of this special issue; Marta Facoetti for the co-organization of the 2019 Workshop on *Language Throughout the Ages* that functioned as the main source of inspiration for this volume; the Center for Philosophy of Science for financial support; and Ana Vilar Bravo for the administrative assistance provided.

**Funding** Gontier acknowledges the financial support of the Faculdade de Ciências da Universidade de Lisboa (Faculty of Science of the University of Lisbon) and FCT, Fundação para a Ciência e a Tecnologia (the Portuguese Foundation for Science and Technology), Grant ID DL57/2016/CP1479/CT0066 and Project ID UID/FIL/00678/2019.

## Declarations

**Conflict of interest** The authors declare not to have any potential conflicts of interest.

## References

- Barés Gómez C, Fontaine M, Nepomuceno A (2021) Knowledge in action: a logico-philosophical approach to linguistic evidentiality. *Logic J IGPL*. <https://doi.org/10.1093/jigpal/jzz040>
- Bourdieu P (1991) Language and symbolic power. English version. In: Thompson JB (ed) *Standard english and the politics of language*. Polity Press, Cambridge
- Brower RH, Miner E (1961) *Japanese court poetry*. Stanford University Press, California
- Clark A (1997) *Being there: putting brain, body, and world together again*. The MIT Press, Cambridge
- Darwin CR (1859) *On the origin of species by means of natural selection, or the preservation of favored races in the struggle for life*. John Murray, London
- Darwin F (ed) (1887) *The life and letters of Charles Darwin, including an autobiographical chapter, vol 3*. John Murray, London
- Davidson D (1973) On the very idea of a conceptual scheme. In: Davidson D (ed) (1984) *Inquiries into truth and interpretation*. Clarendon, Oxford
- Davidson D (1973b) Radical interpretation. In: Davidson D (ed) (1984) *Inquiries into truth and interpretation*. Clarendon, Oxford, pp 125–139
- Davidson D (1974) Belief and the basis of meaning. In: Davidson D (ed) (1984) *Inquiries into truth and interpretation*. Clarendon, Oxford, pp 141–154
- Dennett D (1996) *Kinds of minds: toward an understanding of consciousness*. Basic Books, New York
- Dennett D (2017) *From bacteria to bach and back: the evolution of minds*. Penguin, London
- Dilthey W (1996) Hermeneutics and the study of history. In: Makkreel RA, Rodi F (eds) *W Dilthey, selected works, vol IV*. Princeton University Press, Princeton
- Dilthey W (2010) Understanding the human world. In: Makkreel RA, Rodi F (eds) *W Dilthey, selected works, vol VII*. Princeton University Press, Princeton
- Dilthey W (2019) Ethical and world-view philosophy. In: Makkreel RA, Rodi F (eds) *W Dilthey, selected works, vol VI*. Princeton University Press, Princeton
- Fodor J (1975) *The language of thought*. Thomas Y Crowell, New York
- Foucault M (1966) *Les mots et les choses*. Gallimard, Paris
- Freud S (1962) Inhibitions, symptoms, and anxiety. In: Strachey J (ed) *The standard edition of the complete psychological works of Sigmund Freud, vol 20*. Hogarth Press, London
- Fujitani M (1811/1986) Makoto Ben. In: Miyake K (eds) *Shinpen Fujitani Mitsue Zenshū, vol 4*. Shinbunkaku, Tokyo, pp 705–62
- Gibson JJ (1979) *The ecological approach to visual perception*. Houghton Mifflin, Boston
- Gontier N (2021) Hierarchies, networks, and causality: the applied evolutionary epistemological approach. *J Gen Philos Sci* 52:313–334
- Grice P (1989) *Studies in the way of words*. Harvard University Press, Cambridge
- Hauser M, Chomsky N, Fitch T (2002) The faculty of language: what is it, who has it, and how did it evolve? *Science* 298:1569–1579
- Heidegger M (1938) *Die Zeit des Weltbildes*. In: Holzwege (1950) *BD 5*. Klostermann, Frankfurt am Main, pp 69–104

- Heidegger M (1949) Hölderlin and the essence of poetry. In: Scott D (ed) *Existence and being*. Henry Regnery Company, Chicago, pp 291–315
- Heidegger M (1959/1971) *On the way to language*. Trans: Hertz PD. Harper One, New York
- Humboldt W, Buschmann J (1836) *Über die Kawi Sprache auf der Insel Java: nebst einer Einleitung über die Verschiedenheit des menschlichen Sprachbaues und ihren Einfluss auf die geistige Entwicklung des Menschengeschlechts vol 1*. Königliches Akademie der Wissenschaften
- Husserl E (1936/1970) *The crisis of European sciences and transcendental phenomenology* (trans: David Carr). Northwestern University Press, Evanston
- James W (1909) *A pluralistic universe*. Longman and Green, London
- James W (1868/1987) *Review of Du sommeil et des états analogues*, by Ambroise-Auguste Liébeault. In: WWJ, Vol. 17, p 240–246
- Jones R (1764) *The origin of language and nations*. J. Hughs, London
- Kant I (1790) *Critik der Urteilskraft*. Lagarde und Friederich, Berlin
- Kant I (1987) *Critique of judgment: including the first introduction*. Hackett, Indianapolis
- Kendon A (2004) *Gesture: visible action as utterance*. Cambridge University Press, Cambridge
- Kuhn TS (1969) *The structure of scientific revolutions*. The University of Chicago, Chicago
- Lewis CI (1929) *Mind and the world order*. Dover, New York
- Magnani L (2009) *Abductive cognition: the epistemological and eco-cognitive dimensions of hypothetical reasoning*. Springer, Heidelberg
- McNeill D (2012) *How language began: gesture and speech in human evolution*. Cambridge University Press, Cambridge
- Millikan RG (1984) *Language, thought and other biological categories*. The MIT Press, Cambridge
- Millikan R (2004) *Varieties of meaning*. The MIT Press, Cambridge
- Moore GE (1970) *Philosophical papers*. George Allen and Unwin, Crows Nest
- Morgan LH (1877) *Ancient society*. Henry Holt and Co, New York
- Motoori N (2007) *The poetics of Motoori Norinaga: a hermeneutical journey*. In: Marra MF (ed, transl) University of Hawaii Press, Honolulu
- Nelson ES (2018) Dilthey and Carnap: the feeling of life, the scientific worldview, and the elimination of metaphysics. In: Feichtinger J et al (eds) *The worlds of positivism*. Palgrave, London, pp 321–346
- Nida E (1945) Linguistics and ethnology in translation-problems. *Word* 1(2):194–208
- Paasi A (1986) The institutionalization of regions: a theoretical framework for understanding the emergence of regions and the constitution of regional identity. *Fennia* 164:106–146
- Plato (1921) *Plato in twelve volumes* (trans: Fowler HN). Harvard University Press, Cambridge
- Quine WVO (1960) *Word and object: an inquiry into the linguistic mechanisms of objective reference*. The MIT Press, Cambridge
- Rolph EC (1976) *Place and placelessness*. Pion, London
- Rousseau J-J (1781/1970) *Essai sur l'origine des langues*, introduction et notes par Charles Porset. Ducros, Bordeaux
- Sachs CB (2014) *Intentionality and the myths of the given: between pragmatism and phenomenology*. Pickering and Chatto, London
- Sebeok TA (2001) *Signs: an introduction to semiotics*. University of Toronto Press, Toronto
- Sellars W (1997) *Empiricism and the philosophy of mind*. Harvard University Press, Cambridge
- Shannon C (1948) A mathematical theory of communication. *Bell Syst Tech* 27(379–423):623–656
- Spengler O (1926) *The decline of the west*. Alfred A Knopf Publisher, New York
- Sperber D, Wilson D (1986) *Relevance: communication and cognition*. Blackwell, Oxford
- Thom R (1988) *Esquisse d'une sémiophysique*. Inter Editions, Paris, (trans: Meyer V), *Semio-physics: a sketch*, Addison Wesley, Redwood City, CA, 1990
- Tuan Y (1977) *Space and place: the perspective of experience*. University of Minnesota Press, Minneapolis
- Ueda M (1967) *Literary and art theories in Japan*. Center for Japanese Studies, the University of Michigan, Michigan
- von Humboldt W (1836) *Über die Verschiedenheit des menschlichen Sprachbaues und Ihren Einfluss auf die geistige Entwicklung des Menschengeschlechts*. Dümmler, Berlin
- von Uexküll J (1909) *Umwelt und Innenwelt der Tiere*. Verlag von Julius Springer, Berlin
- Weber M (1917/2004) *Science as a vocation*. In: Owen D, Strong TB (eds) (trans: Livingstone R) *The vocation lectures*. Hackett Publishing Company, Indianapolis and Cambridge
- Wheeler M (2004) Is language an ultimate artifact? *Lang Sci* 26:693–715
- Wilson D, Sperber D (2012) *Meaning and relevance*. Cambridge University Press, Cambridge
- Wittgenstein L (1961 [1921]) *Tractatus-Logico Philosophicus*. Routledge, London
- Wittgenstein L (1969) *On certainty* (trans: Paul D and Anscombe GEM). Harper and Row, New York
- Zlatev J (2019) *Mimesis theory, learning, and polysemiotic communication*. In: Peters M (ed) *Encyclopedia of educational philosophy and theory*. Springer, Singapore
- Zlatev J, Żywiczyński P, Wacewicz S (2020) Pantomime is the original human-specific communicative system. *JoLE* 5(2):156–174
- Żywiczyński P (2004) *Buddhism and meaning: comparative assessment of Buddhist views on cognition, meaning, and language*. Ph.D. Dissertation, Nicolaus Copernicus University Torun

**Publisher's Note** Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.